

The Mining Journal

AND ATMOSPHERIC RAILWAY GAZETTE,

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 564.—VOL. XVI.]

LONDON: SATURDAY, JUNE 13, 1846.

PRICE 6D.

IMPORTANT MINING SHARES.

Paying dividends, and presenting, in other respects, eligible investments for capital.
MR. C. WARTON begs to announce, that he is directed by the trustees of the late Henry Gilbard, Esq., of Devonport, to SELL, BY AUCTION, at the Auction Mart, on Thursday, the 18th of June, at Twelve o'clock, SHARES in the following important **BRITISH MINES**—viz.: Botallack, East Wheal Crofty, Wheal Providence, West Wheal Providence, South Wheal, Dolcoath, Fowey Consols, Hallenbeagle, Levant, Wheal Henry, Wheal Robins, Wheal Rose, and Wheal Anderson Mines, embracing some of the most lucrative established interests in the county of Cornwall, and many recent adventures of the greatest promise.
Particulars may be had at the Auction Mart; at the Golden Lion Hotel, Liverpool; at Pearce's Hotels, Truro and Penzance; and of Mr. C. Warton, auctioneer and estate agent, 38, Threadneedle-street.

SHARES IN THE TRELEIGH CONSOLS MINE, CORNWALL.

MR. C. WARTON is directed by the executors of the late Daniel Curling, Esq., TO SELL, BY AUCTION, at the Mart, on Thursday, the 18th of June, at Twelve o'clock, ONE HUNDRED AND TEN SHARES in the TRELEIGH CONSOLS MINE, in the celebrated mining district of Gwennap, in the county of Cornwall, upon which £6 per share have been paid. The mine is in a very promising state.
Particulars may be had at the Auction Mart; at the Golden Lion Hotel, Liverpool; at Pearce's Hotels, Truro and Penzance; and of Mr. C. Warton, auctioneer and estate agent, No. 38, Threadneedle-street.

**THIRTY-INCH CYLINDER ENGINE, AND OTHER SPARE MINING MATERIALS, FOR SALE.—TO BE SOLD, BY AUCTION, on Tuesday, the 23rd day of June inst., at Eleven o'clock in the forenoon, at PROVIDENCE MINES, near ST. IVES, Cornwall, an excellent 30-in. cylinder PUMPING-ENGINE, with boiler, about 7 tons; a WATER-PRESSURE ENGINE, 8-inch cylinder, with nozzles, on the most approved plan; a quantity of PUMPS, of various sizes, and other spare materials.
For viewing the same, application should be made to the agents on the mine; and for other particulars, to Mr. G. H. Bellringer, auctioneer, Penzance.—Dated June 8, 1846.**

MINING MATERIALS.—TO BE SOLD, BY PRIVATE CONTRACT, at WHEAL BETSY MINE, in the parish of Mary Tavy, near Tavistock, Devon, the under-mentioned MATERIALS—viz.:

- 1 WATER-WHEEL, of 40-foot diameter, 4-foot breast, on Buller's shaft
- 1 ditto 40-foot ditto 4-foot ditto on Williams's shaft
- 1 ditto 28-foot ditto 4-foot ditto for drawing machine, with 250 fathoms 11-16th inch chain
- 1 ditto 15-foot diameter, 4-foot breast, applied to a grinder, with jiggling machines attached
- 1 ditto 15-foot diameter, 3-foot breast, with stamps attached
- 1 cast-iron axle, on Job's shaft, with cranks, brasses, &c., complete, and adapted for building a wheel on, 40 to 50-foot diameter, and 4-foot breast
- 120 fathoms of 3-inch round iron flat-rods
- 160 fathoms of 3-inch by 1-inch railroad iron, with saddles, &c.
- 2 good bobs, at Job's shaft
- 60 to 70 fathoms of 8-inch square connection-rods, in ditto
- 40 fathoms casting ladders, &c., in ditto
- 80 fathoms 8-inch square connection-rods, in Williams's shaft
- 12 fathoms 12-inch ditto ditto
- 5 good bobs, at and in Williams's shaft
- 40 fathoms castings, ladders, &c., in ditto
- Capstans, shears, and capstan rope, at Job's shaft
- Ditto ditto at Williams's ditto
- Ditto ditto at Buller's ditto
- Sundry shafts, &c., on dressing floors, with various other necessary materials for working the mine.

The whole is offered FOR SALE, BY PRIVATE CONTRACT, to any person willing to take the same as they stand; and if not so disposed of on or before the 30th inst., they will be advertised FOR SALE, BY PUBLIC AUCTION.

These materials may be seen at any time before the above-named day, by application to Capt. William Williams, at Wheal Friendship, near Tavistock, and who will also be ready to treat for the same.—Dated Wheal Betsy, near Tavistock, June 1, 1846.

TO COALOWNERS, MINERAL AGENTS, ENGINEERS, &c.—In consequence of concentrating the drainage of Walbottle Colliery, and lifting the whole of the water from one shaft, there will SHORTLY BE FOR SALE, the THREE present PUMPING ENGINES, with pumps, and all other apparatus belonging thereto—the whole of which are in good condition, and may be seen working until about the middle of next month—viz.:

AT THE CORONATION PIT.
A high-pressure single-acting ENGINE, cylinder 47 in. diameter, stroke 8 ft., with three cylindrical boilers, 28 ft. long by 7 ft. diameter. One of the same size, with two longitudinal tubes, 2 ft. diameter. Four working barrels, lined with copper, 12 in. diameter, and 340 yards of common pumps, with shears, crabs, shear legs, &c.

AT THE KING PIT.
A double-acting condensing ENGINE, cylinder 47 in. diameter, stroke 6 ft., with three haystack boilers, 15 ft. diameter. Four working barrels—viz., 13, 14, 15, and 16 in. diameter, all lined with copper, and 34 yards of common pumps with all their appurtenances, with shears, crabs, shear legs, &c.

AT THE DUKE PIT.
A single-acting high-pressure ENGINE, cylinder 32 in. diameter, stroke 4 ft., with one boiler (cylindrical), 23 ft. long by 5 ft. diameter. One working barrel, 14 in. diameter, lined with copper, and one 18 in. lined with brass, with pumps, shears, &c.
Also, a great QUANTITY of ENGINE and OTHER very useful MATERIALS, besides several TONS of CAST and MALLEABLE IRON.

Apply to Messrs. R. and W. Hawthorn, engineers, Newcastle; or to Mr. Oliver, at the colliery.—Walbottle Colliery, near Newcastle, May 8, 1846.

SOUTH STAFFORDSHIRE.

FORGE AND MILL TO BE LET.—TO BE LET, for a term of years, all that well-known FORGE and MILL, situated at the LEVEL IRON-WORKS, near Brerley-hill, Staffordshire, consisting of a complete FORGE, with ENGINE of 36-horse power, two powerful helvers, 16 puddling furnaces, and every other requisite; a large and complete MILL, with ENGINE upwards of 50-horse power, with squereers for puddled balls, a train of two pairs of puddled ball rolls, two trains of small rolls, trains of merchant bar rolls, hoop rolls, rail rolls, excellent cutter train for rods, numerous shears, drilling machine, five heating furnaces, and excellent lathe, and conveniences of every description. Two upright boilers are worked by the heating furnaces for the mill engine. The rolls, floor plates, furnaces, working tools, and other property belonging to the present tenant, may be taken at a valuation when possession is given.

As the present tenant, in consequence of a recent death, would have no objection to retire, any person wishing immediate possession of the works, may have the same in its present working state, together with the orders and connections of long standing, which are sufficient to find a regular demand for the produce of the works.
The works may be viewed, and all further particulars known, by application to Mr. R. Smith, the Priory, Dudley; or to Mr. James Holcroft, at the Level Mill.

STEAM-PACKET COAL COLLIERY.—SOUTH WALES.

—TO BE SOLD, OR LET, for such a term of years as may be agreed, TWO SEAMS of COAL lying under an estate of about 200 acres, within five miles of the port of Swansea. This estate is contiguous to the Graigola or Bryndwr Collieries, and contains the same seams of coal which have been used for many years by the East India Company and the Government, and which are named in the list of the coals to be included in the Admiralty contracts, and at present by some water-works and large brewery establishments. The ground is well served by extensive workings in adjoining collieries. The property is believed to be free from faults, and the workings may be opened in an efficient manner at a small outlay. The coal can be produced at a low cost, and the transport to the port will be by a locomotive railway, intended to be opened in a few months. The consumption of this description of coal has greatly increased of late—its application to steam navigation having become extensively established. Large quantities of this description of coal are now exported into foreign parts from the ports of Swansea and Neath.

A large HORSE WHIM for sale.—For further particulars apply to Mr. Benjamin Daniel, colliery engineer, 5, Garden-street, Swansea.

STEAM COAL.—THE BYNEA COLLIERY TO LET, with immediate possession. It is situated close to the lines of the Llanelly and South Wales Railways; on the former of which the coals are carried for shipment to the Llanelly Dock—a distance short of three miles from the colliery. The Spitty Copper Works are contiguous, to which easy access might be had over the land of the proprietor of the colliery, if at any time those works should be again carried on. The BYNEA COAL has been highly approved of for STEAM PURPOSES and PATENT FUEL, and is in good demand for smiths, and other uses, particularly in the Dublin market.

The PLANT, consisting of a 40 and 20-horse power ENGINES, &c., to be taken on terms to be agreed upon.
For particulars apply (letters pre-paid) to Mr. B. Jones, solicitor, Llanelly; or to Mr. R. Guesdon, at the office of the Llanelly Railway and Dock Company, No. 9, Old Jewry Chambers, London.

STEAM COAL.—WITHOUT SMOKE, as per experiments made at her Majesty's Dockyard, Woolwich.
CAMERON'S COALBURN STEAM COAL AND SWANSEA AND LOUGHOR RAILWAY COMPANY.—(Completely Registered and Incorporated.)
OFFICES—2, MOORGATE-STREET, LONDON.

The directors are now prepared to supply steam ship companies, manufacturers, shipbuilders, and others, with the company's steam coal, either at the company's wharf at Swansea, or in London. A statement, showing by comparative trial the superiority of this coal for steam purposes over every other, and a scale of prices, may be had on application at the company's offices here, or at their wharf at Swansea.—March 18, 1846.

IMPORTANT TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

Messrs. W. & C. MATHER beg to call the attention of the ABOVE PARTIES to their IMPROVED ELASTIC METALLIC PISTONS.

The PRINCIPAL FEATURE and ADVANTAGE of THIS IMPROVEMENT is—1. Its great ELASTICITY and SELF-ADJUSTING PROPERTIES, which enable it to yield to any inaccuracy of the cylinder, whether oval or taper, and to move with the least possible friction.

2. Its extreme SIMPLICITY and LIGHTNESS, consisting of only two pieces of metal, having the vertical and lateral pressure in due and proper proportion, independent of each other.

3. It takes the LEAST possible SPACE, and is well adapted for air and water-pumps, as it allows of a larger water way.

Messrs. W. & C. MATHER feel confident that it is the BEST ELASTIC METALLIC PACKING yet known, for the above reasons.

Models may be seen at the Railroad Iron-Works, Manchester; at W. Barker's, engineer, Newton-Moor; and also at J. Mather's, engineer, Beaufort-street, Chelsea, London.

THE PATENT SAFETY FUSE.

FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that your recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, RICKFORD, SMITH, and DAVEY, Capborne, Cornwall.

SAFETY FUSE FOR BLASTING ROCKS, SUBMARINE EXPLOSIONS, &c.

THE BRITISH AND FOREIGN SAFETY FUSE COMPANY beg to inform the MANAGERS and AGENTS of MINES, and OTHER PARTIES engaged in WORKS requiring the SAFETY FUSE, that they are now able to SUPPLY that ARTICLE in ANY QUANTITIES, and of such descriptions, as may be required.

The British and Foreign Safety Fuse Company have spared no expense, in order to make an article of the first quality; and they hope, by a strict attention to business, to merit a continuance of the orders which they may be favoured with.

Orders from any part of the kingdom will be executed with every possible dispatch, and particular care will be observed in packing fuse which may be wanted for exportation.

Dated Redruth, Cornwall, April 21, 1846.

NOTICE TO THE PROPRIETORS AND SHARE-HOLDERS OF MINES, SMELTING-WORKS, &c.

Messrs. MITCHELL and FIELD beg to inform the PUBLIC, that they have REMOVED from No. 5 A to No. 23, HAWLEY-ROAD, KENTISH TOWN, where they have erected a spacious LABORATORY, fitted expressly for the performance of all OPERATIONS CONNECTED WITH MINING.—Practical instruction to gentlemen in Assaying, Mineral Analysis, and Manufacturing Chemistry in general.

Assays and Analyses conducted as usual.

All communications to be addressed to Messrs. Mitchell and Field, assayers, No. 23, Hawley-road, Kentish Town.

TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE FOR MACHINERY AND AXLES of every description.—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—

constant service is—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public.

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London.

PENNANT LEAD AND COPPER MINING COMPANY,

DINAS MOWDDWY, COUNTY MERIONETH. NOW IN WORK ON THE "COST-BOOK" PRINCIPLE.

6000 shares.—Deposit £1 per share.

COMMITTEE OF MANAGEMENT.
Joseph Carrington Ridgway, Esq., Roehampton Lodge, Roehampton
B. Forrester Scott, Esq., Park-street, Westminster
Calverley Richard Bewicke, Esq., Bankham House, Beccles
Charles Dunbar Atkinson, Esq., Wakefield
William W. Mansell, Esq., Dorchester-place, Blandford-square.

CONSULTING ENGINEER.
Thomas Kitto, Esq., Jun., Civil Engineer and Mineral Surveyor, Redruth.

BAKERS.
Messrs. Pocock and Marston, 10, Norfolk-street, Strand.
Messrs. Cocks, Biddulph, and Biddulph, London.

OFFICES—No. 4, SALISBURY-STREET, STRAND, LONDON.

PROSPECTUS.

Pennant Lead and Copper Mine set extends over about 900 acres, and is situated in the centre of the lordship of Mowddwy, county Merioneth, which is admitted to be one of the richest mines in the kingdom. It is held under lease from the lord of the said manor, at the usual royalty of 1-10th, for a term of 21 years, renewable for the same period, on payment of a fine.

Pennant is in the immediate vicinity of the mines, on the same manor, of Craigawn, Foel Rhydd, and Cowarth, which are in course of most satisfactory working, and producing ore, which yields from 70 to 80 per cent. of lead, in addition to a considerable quantity of silver. These facts, of themselves, are sufficient to show the value of the property; and as nearly all the lodes on these sets cross Pennant, there is every reason to expect equally favourable results; while the rapidly-increasing value of lead encourages more extensive expenditures in the works, which a company would do. It is a well-known fact, that the requirements of lead follow those of iron; and it is almost superfluous to allude to the extraordinary and increasing demand which exists for the latter.

The backs of several of the veins have been exposed, and an adit is in course of driving. The high road from Bala to Maltravers runs along the set, and the River Dovey is at the base of the mountain. It is about 13 miles from the port of Denbigh; but, as various projects are before the public for railway communication in this district, there is little doubt but that a short time will furnish direct and speedy transit to London, Liverpool, &c., and which is the necessity of having recourse to water carriage.

The bill for the Worcester and Porir Dyrnellen Railway, brought forward by the Great Western Railway Company, has been read a second time in the House of Commons. The line runs near to the Pennant Mine, as shown on the map.

There is an abundant supply of water for every description of machinery, and as the lodes are in the mountains, the fact of driving adits unwaters the mine, and does away with the necessity of steam or other power for that purpose, which is so expensive and troublesome an operation in Cornwall, and other places where the country does not furnish such natural facilities.

The object of the company is to develop and bring into full work the various resources of this set, and to be in a position to make arrangements in respect to other sets, should the shareholders hereafter so determine. The capital formed from the payment of deposits will be fully sufficient to work the Pennant set.

The operations of the company are carried on under the "cost-book" principle, which exempts the company from the provisions of the Act for the Registration of Joint-Stock Companies (7 and 8 Vic., cap. 110), the 6th section of which enacts—

"Provided always, and he it enacted, That nothing in this Act contained shall extend, or be construed to extend, to any partnership formed for the working of mines, minerals, and quarries, of what nature soever, on the principle commonly called the cost-book principle."

The capital realised from the deposit is considered a sum sufficient to bring the undertaking into a paying state; but, in the event of more being required for general purposes, the 16th clause of the "cost-book" provides—

"That no further call than that authorised by the fourth resolution (the deposit) shall be made before the 1st day of January, 1847, and that three months' clear notice of every future call shall be given by the purser for the time being, by circulars to be sent to each adventurer or shareholder, by post—provided always that a period of three calendar months shall elapse between the making of any two calls, and that no call shall exceed the sum of £1 per share."

Under the "cost-book" principle, shareholders have the right of determining their responsibility by giving notice of their intention to relinquish their shares, and on forfeiture of all previous payments. The 21st clause states—

"That any adventurer or shareholder may determine his or her responsibility or liability, with respect to the affairs of this mine, upon his, or her, giving notice, in writing, to the purser of the company for the time being, of his, or her, desire of retiring from the company; and also upon depositing with the said purser the share or shares held by him, or her, and signing a relinquishment of all claims or demands on the company in respect to such share or shares."

For the original purchase of the grant, the sum of 2500*l.* will be required; and, in consideration of the works done in developing the mine, and of the transfer to the company of the lease of Pennant, with all its rights and privileges, the present lessee to have 600 paid-up shares, in addition to the sum of £500, which he has already paid for working and other expenses.

Applications for shares to be made to the purser, at the offices of the company, No. 4, Salisbury-street, Strand; to the solicitors, Messrs. Pocock and Marston, No. 10, Norfolk-street, Strand; or Charles Godwin, Esq., 3, Royal Exchange-buildings, where prospectuses, reports, maps, and every information may be obtained.

GRATIS.—A LIST OF PATENTS and REGISTRATIONS

for the MONTH of FEBRUARY, may be had (gratis) on application at the PATENT OFFICE, 89, CHANCERY-LANE, or will be sent free, by post, on receipt of two stamps, together with a Prospectus, containing charges and necessary information for PATENTS and REGISTRATIONS.—Further particulars may be had by applying to Messrs. Barlow and Le Caplain, the Patent Office, 89, Chancery-lane.

MR. H. B. RYE (from Cornwall), MINE AND SHARE AGENT, 89, OLD BROAD STREET, LONDON.

Mines inspected, and every information may be obtained on application.
Mr. Rye is a SELLER in THELAWNEY, and a BUYER in MARY A.

THOS. P. THOMAS, of the late firm of Rye and Thomas, MINE AGENT, AND DEALER IN RAILWAY AND OTHER SHARES, 89, OLD BROAD-STREET, LONDON.

JAMES LANE, SHARE AGENT, HALL OF COMMERCE, LONDON.

JOHN PHILLIPS, MINE SURVEYOR AND REPORTER, POOL, ILLOGAN, CORNWALL.

OFFERS his SERVICES, by the promptest attention, to any business of INSPECTION and ADVICE.—Terms, One Guinea per day, besides consequent expenses.

WILLIAM TRENER, DEALER IN RAILWAY AND MINING SHARES.—ESTABLISHED TEN YEARS. OFFICES, No. 50, THREADNEEDLE-STREET, LONDON.

PAUL RABEY, JUN., AND CO., MINE AND RAILWAY SHARE AGENTS, OFFICE—No. 12, COTHALL-COURT, LONDON.

WILLIAM FOX AND SON, No. 53, CASTLE-STREET, LIVERPOOL, have always on SALE IRON-PIG, RAILWAY BARS, CHAIRS, and IRON of every description.—TIN PLATES, WIRE, &c.

MESSRS. LAMOND, SMALE, and LAMOND'S PUBLIC SALE OF RAILWAY SHARES, &c., are HELD, at the Hall of Commerce, Threadneedle-street, every TUESDAY and FRIDAY, at One o'clock precisely.—Orders received until Four o'clock of the day prior to sale.—London, June 12, 1846.

MINING OFFICES, REMOVED FROM 16, CORNHILL, to 1, THREE KING COURT, LOMBARD-STREET.—Mr. H. TREDINNICK (of Cornwall), having established PRACTICAL AGENTS and CORRESPONDENTS in every MINING DISTRICT, whereby he obtains early and accurate information respecting MINES, proffers his services to capitalists and adventurers in the PURCHASE and DISPOSAL of SHARES.

MINING PROPERTY.—CAPITALISTS who are disposed to INVEST in CORNISH and FOREIGN MINES, will find the present opportunity very favourable for so doing. From large sums having been lately diverted from such investments for railway speculations, standard mines are now selling at prices that will pay the purchaser 20 per cent. per annum for his outlay. There are also other mines that are low price of lead, it was discontinued. A prospectus of the mine, with a plan of the underground workings, with other particulars, may be obtained on application.

Messrs. S., J., & Co., have also SHARES in good working MINES, which may be had at REASONABLE PRICES.—Attendance will be given at No. 15, KING-STREET, CHEAPSIDE, on Saturday, the 13th of June inst., and daily during the following week, between the hours of Ten in the morning and Two in the afternoon.

The same party have at their disposal, GRANITE BLOCKS, of ALL DIMENSIONS, and to ANY EXTENT.—Dated 15, King-street, Cheapside, London, June 12, 1846.

TO CHINA CLAY MERCHANTS, AND OTHERS.—Any respectable house, in the ABOVE LINE, producing a really first-rate article, may make satisfactory arrangements for the SALE of the same, with a FIRM in MANCHESTER, having an opening for its disposal.—Address C. A. S., Box B 35, Post-office, Manchester.

WANTED TO PURCHASE, a SECOND-HAND PUMPING APPARATUS, for a SHAFT of 145 yards in depth. The PUMPS to be 10 inches in diameter, in two lifts, and to contain all necessary fittings, working-barrels, pump-rods, &c.—Application to be made, stating particulars as to price, &c., to Mr. Mitcheson, mine agent, Langton, Newcastle, Staffordshire.

ANGLO-MEXICAN MINING ASSOCIATION, 5, Broad-street-buildings.—The ANNUAL GENERAL MEETING of the proprietors of the ASSOCIATION FOR ASSISTING IN WORKING THE MINES OF MEXICO, AND OTHER PARTS OF SPANISH AMERICA, will be HELD at the company's office, No. 5, Broad-street-buildings, on Wednesday, the 1st day of July next, at One o'clock precisely.

ALFRED GODFREY, Secretary.

GENERAL MINING COMPANY FOR IRELAND. Completely registered, pursuant to 7 and 8 Vic., c. 110.

FIRST CALL OF TEN SHILLINGS PER SHARE.

Notice is hereby given, that in pursuance of a resolution of the board of directors, the shareholders of this company are hereby required to pay into the National Bank of Ireland, College Green, Dublin, on or before Wednesday, the 15th day of July next, A CALL OF TEN SHILLINGS PER SHARE.

Scrp certificates will be exchanged for the bankers' receipts at the company's office, between the hours of twelve and two o'clock each day.

Office, 43, Lower Sackville-street, May 16, 1846. JAMES MURRAY, Chairman. THOMAS MAGUIRE, Secretary.

NEW DELABOLE SLATE QUARRY COMPANY.—The public are respectfully informed, that the whole of the shares in the above are now taken up, and that a MEETING will take place at the office of Messrs. Bullock and Liscomb, 35, Lincoln's Inn-fields, on Wednesday, the 17th inst., at Two o'clock precisely; also, that the shares reserved for those parties originally applied to, must be taken up by or before Monday evening next, June 15.—Apply to Mr. C. S. RICHARDSON, Managing Agent, 6, Whitefriars-street, City.

ST. JOHN DEL REY MINING COMPANY.—Notice is hereby given, that the EIGHTH HALF-YEARLY DIVIDEND, being TEN SHILLINGS per share on the shares in this company, will be PAID at this office on Saturday, the 20th inst., and any succeeding day, between the hours of Ten and Four.—Forms for claiming the dividend may be obtained at the company's office, and must be left three clear days for examination, previous to payment.

8, Tokenhouse-yard, Lothbury, June 9, 1846. GEO. D. KEOGH, Secretary.

UNITED HILLS MINE COMPANY.—The directors hereby give Notice, that the ANNUAL GENERAL MEETING of the shareholders of this company will be HELD at their office, on Thursday, the 18th day of June next, at One o'clock precisely, to receive the report of the directors, and of the agents in Cornwall, and to elect one director, in the room of Mr. Clarke; and one auditor, in the room of Mr. Hensman, who go out by rotation, but are re-eligible.

By order of the board, 5, Adam's-court, Broad-street, May 28, 1846. JAMES SMITH, Secretary.

SILVER VALLEY MINING COMPANY.—At the First Annual General Meeting of the adventurers, held, pursuant to circular, at the offices of the company, 44, Finsbury-square, on Friday, the 14th day of June inst., it was resolved—

Moved by Mr. Hayne, seconded by Mr. J. E. Goodhart, and carried unanimously, 1. That the reports and accounts now read be received, adopted, and entered in the cost and transfer book.

Moved by Mr. J. E. Goodhart, seconded by Mr. J. Smith, and carried unanimously, 2. That the thanks of the meeting be given to the chairman and the directors, for their able management of the affairs of the company.

R. HODGSON, Chairman.

VENTON GIMPS MINING COMPANY. 1000 shares (on the cost-book system.) PROVISIONAL COMMITTEE.

JAMES HAY, Esq., 100, Abchurch-lane, London.
A. L. MCCATT, Esq., 100, Abchurch-lane, London.
GEORGE MACKAY, Esq., 100, Abchurch-lane, London.

Forms of application for shares, and full particulars, to be obtained at the office, No. 4, Abchurch-lane; or of Mr. Richard Thomas, mining agent, 9, George-yard, Lombard-street, London, June 3, 1846.

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK.

Apply to Mr. CAPPER, ENGINE-MAKER and FOUNDER, BIRMINGHAM.

Price.....£14 per horse-power.

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—June 5.—Since my last report we have had our monthly setting: the prices are as follows:—Flat-rod shaft, 6l. per fm. (9 men); east end, 18 fm. level, 5l. 10s. per fm. and 5l. 2s. ton (4 men); western end, 3l. 10s. per fm. and 3l. 10s. per ton (8 men); 1st level, west of flat-rod shaft, 7l. per fm. (4 men); winze sinking under 1st level, 80s. per fm. (6 men); per fm. (4 men); end east from winze (4 men); footway shaft sinking at western end driving on tribute, 5l. 6s. from engine-shaft, south, 5l. 5s. per fm. (6 men); end west from cross-cut adit end east, 1l. per fm. (4 men); men on Dane's shaft, 5l. per fm. (6 men) per ton. The western end 18 fm. level will tribute, 34, at from 4l. 10s. the eastern end about 14 ton per fm. The winze produce about 2 tons per fm. west of flat-rod shaft, is sinking perpendicularly; sinking under the 12 ft. level, is at present on the north side of it; the ends and the lode, from it look well, producing between 2 and 3 tons per fm.; the east and west of it produce rather less than one-half ton per fm., looking very lode in the adit. —T. ANGOVE.

BEDFORD.—June 9.—At Wheal Marquis, the lode in the 80 fm. level, 2 ft. wide, and unproductive. In the 70 fm. level east the lode is level east composed of spar and ore, worth 8l. per fm.; and in the stopes, in 2 ft. win of this level, the lode is worth 20l. per fm. The lode in the 58 fm. level is 18 in. wide, composed of spar and munda. At Ding Dong, the lode in the 24 fm. level west is 3 ft. wide, producing some saving work. In the 35 fm. level east the lode is 15 in. wide, spar and munda; and in this level west the lode is 2 ft. wide, saving work. The lode in the south engine shaft is 9 ft. wide, composed of iron, gossan, and ore, altogether very kindly. —JAMES PHILLIPS.

CALLINGTON.—June 8.—Johnson's engine-shaft is sunk 4½ fms. below the 112 fm. level; the lode has not been taken down in either of the ends at this level for the past week. In the 100 fm. level north the lode continues productive, leaving ground that will set at 9s. in the 12, on the value of the lead; in the rise, in the back of this level, south of the shaft, we have a small branch of rich work. In the 90 fm. level, both north and south, we are opening ground that will set at 7s. in the 12; in the winze, sinking below this level, the lode is producing good work. In the 80 fm. level the lode is producing silver-lead ore. At the north mine, we have commenced cutting pit, previous to cross-cutting for an 100 fm. level; in the 90 fm. level south the lode has not been taken down. In the 80 and 70 fm. levels we are opening ground that will set at a moderate tribute. The copper lode, at the last-mentioned level, driving east, has a very promising appearance, composed principally of munda, intermixed with copper ore. The counthouse shaft is 2 fms. below the 60 fm. level. —J. T. PHILLIPS.

CONSOLIDATED TRETOIL.—June 8.—The alteration of the pitwork in Henwood's shaft is finished, and we have resumed sinking; the lode in the shaft is about 20 in. wide, producing good stones of ore. In the 70 fm. level, east of Henwood's shaft, the lode is 15 in. wide, ore throughout—we have suspended the driving this end for a short time, and have commenced a rise for ventilation, and also cut out ground for tribute; in the 70 fm. level, west of Henwood's shaft, the lode is 1 ft. wide, producing a little ore. In the 60 fm. level, east of ditto, the lode is 1 ft. wide, producing ore that will set on tribute. In the 50 fm. level, east of ditto, the lode is 10 in. wide, saving work, and will set on tribute. In the 60 fm. level, west of Williams's shaft, the lode is 1 ft. wide, producing ore, and is also opening tribute ground. Tregrilla's lode, driving east at the 40 fm. level, is 1 ft. wide, producing a small quantity of ore. We have begun to drive east of John's engine-shaft, at the 50 fm. level, on John's lode, which is 15 in. wide, composed of spar, capel, and stones of yellow ore.

EAST TAMAR CONSOLS.—June 8.—At Whitson, at the 46 fm. level, south of Hitchins's shaft, the lode is 2 ft. wide, good quality; at the 46 fm. level, north of ditto, the lode is 20 in. wide, saving work. At the 36 fm. level, north of ditto, the lode is 2 ft. wide, composed of fluor spar and silver-lead ore, good work; on the whole, Whitson is very much improved. At Furzehill, we expect to put the engine to work on Tuesday, the 16th inst. —B. ROBINS.

GRAMBLER AND ST. AUBYN.—The following are the particulars of the account-meeting, held on the 9th inst.:

To labour cost for March and April	£747 3 3
Merchants' bills	300 4 1—1047 7 4
By copper ores sold 30 April	£915 18 7
Tin ores sold 16th May	57 5 2—973 3 9
Deduct lords' dues	54 1 4—919 2 5
Loss	£136 4 11
Balance due to pursers last account	185 18 8

GREAT WHEEL MARTHA.—June 6.—The lode in the 60 fm. level east is 2 ft. wide, consisting of capel, spotted with yellow copper ore. At the new mine, the lode in the 20 fm. level east is 4 ft. wide, composed of friable quartz, and good stones of copper ore. The lode in the western level is split into three parts, each of which, however, is strongly mineralized, producing a little copper ore. The lode in the 10 fm. level is 5 ft. wide, composed of munda, intermixed with decomposing felspar, carrying stones of ore of good quality, presenting very promising appearances; the pitch in the back of this level is a little improved. The new engine-shaft is sunk 7 fm. 3 ft. below the deep adit level. We sampled at Calstock, on the 29th ult., 61 tons of ore, and are now preparing another parcel for market. —JOHN PHILLIPS. THOMAS PENALUNA.

GUNNIS LAKE.—June 9.—At Chilworth, Bailey's engine-shaft is 8 fms. 2 ft. below the adit level; the lode is about 2 ft. 6 in. wide, composed of gossan and spar, with spots of copper ore in places. The lode in the 10 fm. level, east and west of western shaft, is upwards of 2 ft. wide, composed of prian, spar, and tin, altogether very kindly. —W. RICHARDS.

HANSON.—June 8.—At Treza, our sumpmen are sinking Stainsby's engine-shaft under the 22 fm. level, on Stainsby's lode; the lode is 2½ ft. wide, with some ore. The lode in the 22 fm. level east is 20 in. wide, unproductive; in the end, same level, is suspended for the present. The tributaries working on counter lode, east of engine-shaft, in the bottom of the 12 fm. level, have a lode 20 in. wide, 10 in. of which is the best branch of ore I ever saw in the mine. At Hanson, our sumpmen are driving the 54 fm. level, west of engine-shaft, on Ribb lode; the lode is 2 ft. wide, a large portion of which is munda, unproductive for copper. —Z. WILLIAMS.

HAWKMOOR.—June 9.—The winze in the adit level is suspended, in consequence of quick water. The lode in the 15 fm. level, east of Hitchins's shaft, is 3½ ft. wide, and worth 6l. per fm. —P. RICHARDS.

HOLMBUSH.—June 9.—The shaftmen have been engaged in the past week in stopping a piece of ground for the back of the pit in the 120 fm. level, and in fixing a 10 in. lift by the side of the 8 in. lift, which we have been sinking with, to prepare for the water which will be let down to this level by the intersecting of the great cross-course, which we have set to six men to perform. In the 110 fm. level, west of Hitchins's shaft, we have got through the branch of lead and spar reported on last week—the present end being in moderate hills ground; this branch will produce from 2 to 3 cwt. of lead per fathom, and, agreeable to the underlie of this branch, in the level above, we have about 7 ft. further to drive west to intersect the lead lode. When this is accomplished, we shall drive both north and south, on the lead lode, by six men in each end, to intersect the copper lode, now wrought on in the 100, as well as to prove the lead lode, believing we shall have some lead from this level to assist us, judging from the partial branch of lead we have had in the level above. In the 100 fm. level, west of ditto, on north part, we have intersected three or four cross-courses, which have disordered the lode; the stopes, in the back of this level, we have set on tribute, believing it to be preferable to stoping; in the 100 fm. level, west of the lead lode, on the south part, the lode is 18 in. wide, composed of spar, munda, and spots of ore; at this level, driving south, the lead lode is 5 ft. wide, composed of soft white spar, prian, and lead—the present end producing about half a ton of lead per fm., and the ground very favourable for driving, being set to drive by six men at 3l. 15s. per fm.; we are driving this level with all possible speed to reach the Flap Jack lode, and to prove the lead lode beyond it; in the same level, driving north, the lead lode is 3 ft. wide, composed of flookan and spar; the ground, in this level, is also favourable for driving, being set to six men at 3l. per fm.; in this level we are pushing on with all speed to reach the counter part of the north lode, and to prove the ground beyond it. In the 90 fm. level, west of lead lode, on the north part, the lode is 10 in. wide, composed of munda, spar, and stones of ore; the rise, in the back of the 80 fm. level, is without alteration—being in the country, there is no lode to report on. In the 62 fm. level south, the lead lode is 2½ ft. wide, composed of flookan and spar. —W. LEAN.

LEWIS.—June 6.—Nutt engine-shaft is down to the 60 fm. level, where we have commenced to drive east on the lode, which is 1 ft. wide, yielding some tin; we are also driving west at the same level, lode split and disordered. The lode in the 50 fm. level east is 1 ft. wide, just passed through a cross-course, disordered, and at present unproductive; the lode in the 50 fm. west is 2½ ft. wide, producing some tin. The lode in the 40 fm. level east is 18 in. wide, worth 40s. per fm. for tin; the lode in the 40 west is 2 ft. wide, producing some good spots of yellow ore, and very kindly. The lode in the 30 fm. level east is 6 ft. wide, producing some good spots of ore, with some tin, and very promising; the lode in the 30 fm. level west is 2 ft. wide, worth 40s. per fm. for tin. The lode in the 20 fm. level west is 2 ft. wide, worth 40s. per fm. for tin; we are also continuing to drive the cross-cut north at this level, on the flookan ground east; Scadden's lode, or the copper branch, at the same level, is still looking very promising, where the tributaries are raising some good quality yellow ore, and are making fair wages at their tribute. In our last report we stated our expectation in getting on better after setting our new plunger lift

to leave the water from adit, over the wheel; since that we have connected another draining lift, and even with these we find we cannot raise sufficient stamping power to stamp the coming work in the mine. Against next Saturday, we expect to have for the smelting-house 6 tons of tin. —SAMUEL E. KENT. PRICES PAID.

MENDIP HILLS.—June 4.—Stainsby's shaft is sunk 4 fms. below the 18 fm. level, the ground is easy for sinking; in the end, driving south on Stainsby's lode, at the above level, the lode is 1 ft. wide, producing stones of lead ores from 12 to 15 lbs. weight; in the end, going north, at the same level, the lode is 3 ft. wide, composed of carbonate of lime and flookan. At Paynter's shaft we have commenced sinking under the 14 fm. level; the end, driving north from this shaft, on Stainsby's lode, is at present in a disordered state. At the 20 fm. level new shaft we have begun driving a cross-cut to intersect Somer's lode, the ground hard for driving; in the end, driving north on Somer's shaft, the lode is larger than the end wide, producing a little lead at times. From the present appearance of this mine, it is my opinion as we gain in depth, and the lode become in a more settled state, it will make a profitable concern. —FRANCIS HANFORD.

STRAY PARK AND CAMBORNE VEAN.—In the rise above the back of the 70 fm. level the lode is 1 ft. wide, yielding 2 tons of ore to a fm. At the 70 fm. level, driving west, the lode is 14 in. wide, yielding 2½ tons of ore to a fm. In the winze, sinking below the 80 fm. level, the lode is 18 in. wide, yielding 2 tons of ore to a fm. In the 90 fm. level, driving west, the lode is 1 ft. wide, yielding 1½ ton of ore to a fm. In the winze, sinking below the 90 fm. level, the lode is 3 ft. wide, yielding 4 tons of ore to a fm. In the 100 fm. level, driving west, the lode is 2 ft. wide, yielding 3 tons of ore to a fm. In the 110 fm. level, driving west, the lode is 18 in. wide, yielding 2½ tons of ore to a fm. In the winze, sinking below the 110 fm. level, the lode is 3 ft. wide, yielding 3 tons of ore to a fm. In the 120 fm. level west the lode is 18 in. wide, yielding 2 tons of ore to a fm. In the winze, sinking below the 120 fm. level, the lode is 1 ft. wide, yielding 1 ton of ore to a fm. In the 150 fm. level, driving east, the lode is 2½ ft. wide, yielding 3 tons of ore to a fm. In the rise, above the back of the 150 fm. level, the lode is 2½ ft. wide, yielding 3 tons of ore to a fm. In the 180 fm. level, driving east, the lode is still in a disordered state, yielding stones of ore. We have a fine course of ore going down in the bottom of the 150 fm. level, under the elvan, 4 ft. wide, which we have set on tribute at 1s. 8d. in the 12, and the men are getting good wages; the tribute ground generally is looking very well, and our next sampling, we expect, will be the largest and the best that we have ever had. —R. EVERTON. E. RALPH.

ST. DENIS.—June 4.—This mine is looking well: we have cut a branch of tin at the 8 fm. level, nearly half tin, I think as good as I ever saw; we have 2 or 3 fms. further to cut the lode, and this branch is leading into the lode; I never knew, when a branch leads into a lode, as that is, to fail; and if the lode opens, as the branch is, shares will be worth 30l. per share. We have 200 fms. on the course of this lode, and in as fine a strata as I ever saw. We have an adit within 10 fms. of the lode, 15 fms. deep, which, if the lode continue good, as it is where we opened it at the surface, we shall return thousands of pounds' worth of tin above the adit. We have three or four other lodes in the mine; so, from every appearance, we shall have a good mine. The St. Stephen's lode is running through St. Dennis sett; it is a promising concern; perhaps, if it could be so arranged, it might be best if they were put in one. From what I have heard, and what I have seen, it is likely to make a good mine. I am informed, that the streamers in the bottom have gone over a very good lode of lead, containing pieces as much as a man could lift; and from what I have seen on the backs of the copper lodes, and from the nature of the country, I should say it is a very promising concern for copper. —W. HOOPER.

TAMAR SILVER LEAD.—The engine-shaft is down about 8 fms. below the 145 fm. level—the lode in the shaft is small and unproductive; in the 145 fm. level the lode is 6 in. wide, composed of capel, with spots of ore. In the 135 fm. level the lode is 3 ft. wide, 1 ft. of which is rich work; in the north end, at this level, the lode is 18 in. wide, producing good stones of ore. In the 125 fm. level the lode is 2 ft. wide, yielding work of a good quality; in the rise, in the back of the 115 fm. level, the lode is 1 ft. wide, saving work, of a promising description; in the winze, in the bottom of the 105 fm. level, the lode is 2 ft. wide, and of just the same appearance. We sampled, on the 5th inst., computed 101 tons of silver-lead ore. At North Tamar, we have holed the winze, at the 60 fm. level, and recommenced driving at this level. —J. SPREAGUE.

TINCROFT.—June 8.—The new engine-shaft is 6½ fms. below the 90 fm. level, ground still hard. The lode in the 90 east is large, but in a very disordered state, and unproductive; the lode in the west end, same level, is 4 ft. wide, producing some ore and kindly. The lode in the 80 east is 3 ft. wide, producing stones of ore; the west end, same level, is unproductive. The lode in the 70 east is 6 ft. wide, producing some coarse quality copper ore and some tin. The winze sinking under the 80 fm. level, to the east of the cross-course, will produce 1½ tons of ore per fm., worth 5l. per ton; other places are much the same as for some time past, producing but a small quantity of ore. Palmer's shaft is about 3 fms. below the 70 fm. level on south part of lode; the north part of the lode is standing to the north of the shaft, but very near; the 70 west is holed to the winze to the west of shaft, and the back of the level set at 7s. tribute. The end now to the west of the winze will produce 1 ton of ore per fm., worth about 7l. The lode in the western winze is 5 ft. wide, ore throughout, set at 6s. tribute. The 60 west is producing occasional stones of ore, and kindly. The new shaft is down about 14 fms., sinking in favourable ground. At the south mine, the engine-shaft, sinking below the 132 fm. level, is worth 60l. for tin; the stopes to the west of the shaft is worth 20l. per fm.; the 152 west, having but just past through a cross-course, is in a disordered state. The 140 east is 'yielding fair quality tin stuff, as are also the 110 and 120 levels east. Since my last report we discovered a good bunch of copper ore on Chapple's lode, at the 100 fm. level, on which we were led to calculate very highly; but, I regret to say, it is not near so good as it was, yet still it is a very promising lode. —W. PAUL.

TRELEIGH CONSOLS.—June 6.—In the 100 fm. level, east of Christo, the lode is 2½ ft. wide, very promising, with stones of ore; in the 100 fm. level, west of ditto, they are driving on the cross-course. In the 90 fm. level, east of ditto, the lode is 3 ft. wide, worth just as last week, from 16l. to 18l. per fm.; in the 90 fm. level, west of ditto, the lode has much improved in size, now 2½ ft. wide, and we think we are through the disordered ground; in the 90 fm. level, east and west of Garden's, the lode is 3 ft. wide, ore, worth 25l. per fm. each end. In the 80 fm. level, west of Good Fortune, the lode is 3 ft. wide, producing stones of ore, with munda, &c. In the 70 fm. level, west of ditto, the lode is 3 ft. wide, with good stones of ore on the south part. In the 60 fm. level, west of Symon's, the lode is 2½ ft. wide, producing a small quantity of ore. The 50 cross-cut north is much as usual as to ground, rather more water than usual; in the winze, below the 50 fm. level, the lode is 18 in. wide, worth 4l. per fm.; in the 50 fm. level, west of Symon's, the lode is 3 ft. wide, worth 10l. per fm., not as well as last week; in the adit, west of ditto, the lode is 3 ft. wide, kindly, and producing good stones of ore. —W. SYMONS.

UNITED HILLS.—June 9.—In the 90 fm. level the lode in the eastern end is 2 ft. 18 in. wide, good ore; in the western end the lode is 2½ ft. wide, 2 ft. good ore. In the 80 fm. level, eastern end, the lode is 3 ft. wide, producing ore throughout, of low quality; in the western end, we have commenced rising against the diagonal shaft to the north of the lode. In the 70 fm. level, in driving this end east, the lode is 3 ft. wide, 1 ft. producing stones of ore; west of James's shaft, the lode is 18 in. wide, producing some good stones of ore; the ground in the diagonal shaft continues favourable for sinking. In the 60 fm. level, eastern end, the lode is 2 ft. wide, 18 in. good ore; west of Harper's winze, the lode is 3 ft. wide, ore throughout, of a coarse quality; the lode in the stopes is 2½ ft. wide, 2 ft. good ore. In the 50 fm. level no alteration for the past week. At Wheal Charles, in the 50 fm. level, the lode is 18 in. wide, producing stones of ore, with a promising appearance. In the 40 fm. level the lode is 2 ft. wide, ore throughout, of low quality. At Wheal Sparrow, in the 40 fm. level, the lode is 18 in. wide, poor. In the 30 fm. level the lode is 18 in. wide, producing ore throughout, of a coarse quality. —T. TREYVENEN. R. WILLIAMS.

WHEEL MARY (Lanivet).—The north lode, or No. 1, is extended on in an easterly direction upwards of 60 fms. The lode is large and promising, and is composed of blende, gossan, prian, with rich yellow copper ore scattered through it; the ground is soft for driving, with a north underlay, of 2½ ft. in a fm. This lode has recently been opened on east of the cross-course, which has hove the lode north of its former course; lode in the present end large and promising; 80s. per fm. for driving, with ore scattered through it. No. 2, which is 6 fms. south of No. 1, has been extended several fathoms east of the cross-cut. This lode, which is composed of prian, spar, gossan, with rich stones of copper ore, has been intersected by the same cross-course as No. 1, and has had the same effect as the former. This lode is large and kindly, east of the cross-course, and its underlay is north; and indeed every lode seen in the sett is underlaying the same way, only some are quicker than others. No. 3 is extended 6 fms. west of the cross-cut; lode 2 ft. wide, is composed of prian, gossan, spar, and ore—a fine looking lode, with the ground soft for driving. This lode has been opened on several fathoms east of the cross-cut, has been intersected by the same cross-course as the former lodes, and on this also it has had the same effect by heaving it north out of its regular course. This lode has been extended a few fathoms east of the cross-course, where the lode has a very cheering appearance, and producing rich stones of yellow ore. No. 4 lode has been opened on for a short distance, but so far as has been seen does not present so flattering a prospect as the former. No. 5 lode has been extended 9 fms. west, and 6 fms. east of the cross-cut. This lode will average 2 ft. wide, and is composed of gossan, and spar, and underlaying 1½ ft. in a fathom, north ground soft for driving, (80s. per fathom). This lode has a promising appearance indeed, and I shall be much disappointed if it does not prove productive. No. 6 lode has been extended 8 fms. west, and 1 fm. east of the cross-cut. This lode is at present split into branches, and does not present any very flattering appearance. No. 7 is extended 6 fms. west, and 1½ fm. east of the cross-cut—lode 1 ft. wide, composed of capel and gossan, with the ground soft for driving. This lode has been seen

but a few fathoms in length, so that it would be rather premature to say much about it, only recommend the extending of the level on it. There are four men sinking a shaft to come down on this lode. When this shaft is communicated to the adit level it will be of great service, both for ventilation as also to save expense in wheeling the work, by drawing it up through this shaft. There is a cross-cut extended north from No. 1, on the north lode, from 30 to 35 fms. In the cross-cut there are some small flat branches of spar intersected, but not of a very promising character. About 40 fms. north of the present end, there is an elvan course, the underlay or direction cannot be present fixed on, only seen in one place at the surface, but by continuing this level it will not only prove the ground to see what lodes are in that direction, but also intersect the elvan course, when the underlay will be seen, as also the direction, as well as taking in the water at this level, and thus prevent its sinking into the mine when she is sunk to a deeper level. I am much pleased with the appearance of the mine, particularly Nos. 1, 2, 3, and 5, lodes, and I would recommend that Nos. 1, 3, and 5, should be extended on east, and No. 7 west, and at any future time, you might cross-cut from one to the next north or south; and I believe that in sinking—say 25 to 30 fms.—that some of those lodes will fall in with, or unite together; but I think, calculating from the ground laid on in the different lodes, that Nos. 1, 3, and 5, are at least the master lodes. I think that there are sufficient prospects even at present to warrant the erection of an engine; but I also think the delaying it some 6 or 8 weeks to extend the levels farther to the east of the cross-course alluded to, will cast greater light on the point where the best spot will be to erect the engine. The ground being virgin ground there may be cross-courses to the east, and not far distant, which might effect the situation for the engine, and the distance is not great, which has yet been opened on the lodes; and by thus extending your adit level you will be constantly taking up water; but from the stream of water at present coming from the different lodes, I think that from a 40 to a 50-inch cylinder engine would be of sufficient power to prove the mine. If the mine was in my own hands, I would not fix on an engine for a few weeks, and from present appearances would not erect a larger engine than I have named. In conclusion, I beg to say, that so far as the mine is laid open, taking into account the number of lodes, their size and promising appearance, with the short cross-cut from one to the other, I consider it an excellent speculation. There are but few, if any, setts in the county, that I have seen, which, at the present depth, present such flattering prospects. —J. LEAN.

WEST TOLGUS AND TRELOWETH.—The following are the particulars of the account-meeting, held on the 2d inst.:

To amount of cost for Jan., Feb., March, and April	£1116 7 7
Balance due to pursers end of Dec., 1845	571 6 4—1687 13 11
Jan., 1846.—To call made of 5l. per 1-26th share	1280 0 0

Balance due to pursers end of March £707 13 11 |

June 2.—To call made of 5l. per 1-26th share 1280 0 0 |

Now in pursers' hands £472 6 1 |

Report.—The engine-shaft is sunk to the 27 fm. level, below the adit, and a cross-cut driven south 9 fms., which has intersected a large and kindly lode, but the distance is not so much as we expected, we continue to drive south, and shall also extend on the lode just discovered. The 15 fm. level is extended, east of the engine-shaft, 55 fms., in a lode averaging 3 ft. wide, kindly, with stones of ore; the present end is within 90 fms. of a run of ore ground in the bottom of the adit level, which will take about two months to get forward; we have also set the 15 fm. level west, to drive under a fine-looking lode discovered in the adit, which level is extended 10 fms., and produced some good ore—it has still a very promising appearance. The deep adit is now communicated through the eastern part of the mine to about 10 fms. west of the engine-shaft, and is driving with all speed towards, and under, a kindly gossan, about 100 fms. west of the engine, called Park Bottom; the mine is in regular course of working, and we hope in three months to raise a fair quantity of ore. —WILLIAM RICHARDS. J. H. KITTO.

WHEEL AGNES.—The men in the shaft have not cut through the slide yet; I expect it will be done by the end of the week. The men shodding north have cut the lode; it is about 1 ft. wide, gossan, and opens very kindly. —B. ROBERTS.

WHEEL BASSET.—The following are the particulars of the account-meeting, held on the 8th inst.:

To labour cost for March and April	£1504 18 4
Merchants' bills for ditto	843 3 2—2447 16 6
By copper ores sold March & April (and materials, 63d. 18s. 6d.)	£2660 12 1
Deduct 1-20th for lords' dues	129 6 10—2321 5 3

Showing a profit of 43l. 8s. 9d.; which, with balance in favour last account, of 1421l. 10s. 3d., leaves a balance at bankers of 1464l. 12s.

WHEEL TRELAUNEY.—Our sumpmen are getting on very well in sinking the engine-shaft under the 32 fm. level; we have set the whole ground to sink to the 42 fm. level, at 14l. 14s. per fm.; we consider, by so doing, we shall save time. The lode in the 32 fm. level, south of the shaft, is 3½ ft. wide, and worth 24l. per fm.; the lode in the same level north is 4 ft. wide, and worth 20l. per fm. The lode in the 22 fm. level north is 3½ ft. wide, and worth 20l. per fm. The lode in the winze, sinking under the 12 fm. level north, is 2½ ft. wide, and worth 16l. per fm. The water is not drained for the winze, sinking below the 22 fm. level, south of the shaft. The stopes are all looking well. —PETER CLIMO, JUN.

WHEEL FORTUNE.—May 29.—This mine is situated in the parish of St. Stephen's in Brannell, in the county of Cornwall, about four miles north of the town of Churchtown, and joins the parish of St. Dennis (from which parish it is separated by a hedge.) In this mine there has been considerable work done by the old men, on and about the junction of two lodes; they worked it open from the surface for a great distance, and from which there has been large quantities of tin taken away. We are sinking at this time a shaft through the old men's workings, where we have found good stones of tin; but I would recommend the discontinuance of this mode of working, and to go back in the valley, and bring up an adit on the course of the lode, which will come in 30 fms. under the old men's workings, and have 300 fms. of backs in length. It is my opinion that large quantities of tin will be returned from this adit; those lodes pass through a beautiful strata of ground, being a decomposed granite. I would also state, that there is no doubt on my mind, but that this locality will become the theatre of great mining operations. It is to be worked with a small capital; and with care, skill, and perseverance, I have no doubt but that it will make a very profitable speculation.—There are several other lodes in the sett, which have been worked open from surface by the old men. —J. CHYROWETH.

WHEEL THOMAS.—May 29.—This mine was worked about 12 years since. The engine-shaft has been sunk to the depth of 20 fms. under the adit by virtue of a water-wheel, and the levels extended east and west about 50 fms. with the backs all taken away by the tributaries; this mine paid her expenses, during the time they worked on the lode, and would have done more if there had been more tutwork carried out; one lode only has been worked on in this mine by the old party. In January last, in searching the adit, about 18 fms. from surface, they discovered a lode unnoticed by the old adventurers, about 30 fms. to the south of the engine-shaft, underlaying north towards the before-mentioned shaft—the lode here, after sinking 4 ft. under the adit level, is about 2 ft. wide, composed of soft blue flookan, intermixed with lead, a very kindly lode. Through this sett passes a large elvan course, on which the lode will intersect about 70 fms. east of the engine-shaft, where, it is my opinion, there are large deposits of silver-lead ores. There is also a north and south lode crossing this sett, from which there have been hundreds of tons of lead raised a little to the north of this place on the same lode. The reason why this mine was discontinued was, in consequence of the parties having four or five mines, and who were rather in embarrassed circumstances, and were obliged to abandon the whole of their mining operations. —J. CHYROWETH.

WHEEL PENROSE.—*Miner's*, June 6.—The following is a statement of the work done, and of the number of men employed in Penrose Mine, during the past month, with a few remarks thereon.—The adit, east on Carne's lode, is driven 9 fms. 3 ft., and south from ditto, 2 fms. by 3 men; west, on a branch, 3 fms., ditto south from west shaft, 9 fms. 3 ft., by 4 men; cross-cut, to communicate with the adit on counter, 3 fms. 3 ft., shaft, sunk under adit, 1 fm. by 2 men; labourers drawing stuff, by 3 men; the adit, east on a lode, cut while driving up the adit, 11 fms. 8 ft., by 2 men—total number of men employed, 14 men. The lode opened in the adit, east on Carne's lode, I am sorry to state, has not been so promising as could be wished—it being very stony; the men were applied to drive south, to prove whether there was any part of it gone off in that direction; east on the lode cut—while driving up the adit, this proved very small and unproductive, and is, therefore, discontinued; the cross-cut, south from west shaft, has been driving as above stated, to see if there was another lode in that direction; up to the present there is nothing intersected. The shaft under the adit has been commenced to sink on the course of the lode, in order to prove it in depth; at present it is about 1 ft. wide, composed chiefly of jack and munda. This being our setting day, I have set the shaft to sink under the adit, to 8 men, at 3l. per fathom; and the adit south from the east end of Carne's lode, at 24s. per fm. to 2 men. —R. S. DRYANT.

WEST WHEEL JEWELL.—June 8.—In the 115 fm. level east, on Wheal Jewell lode, the lode is 6 in. wide, unproductive—driven in the past month, east 2 fms. 3 ft., south 5 ft. 6 in. In the 100 fm. level west, on ditto, the lode is 1 ft. wide, containing occasional stones of ore—driven 2 fms. 4 ft., in the rise, in the back of this level, east of cross-cut, the lode is worth 8l. per fm. In the 85 west, on ditto, the lode is 1 ft. wide, worth 4l. per fm.—driven 2 fms. 2 ft. 6 in.; in the winze, sinking below this level, east of cross-cut, the lode is worth 8l. per fm.—sunk 5 fms. 4 ft. 6 in. In the 70 fm. level west, on ditto, the lode is 18 in. wide, very promising—driven 3 fms. 3 ft. 6 in.; in the rise, in the back of this level, on Williams's cross-course, ground favourable—rose 5 fms. 1 ft. In the 12 fm. east, on Wheal Jewell lode, the lode is 18 in. wide, containing stones of copper—driven 1 fm. 3 ft.; driven south 4 ft. Driven in the 85 cross-cut south 1 fm. Sunk in Wilkinson's engine-shaft in the past month 1 fm.; and in the deep adit west 2 ft. The 12 fm. level east, on Tokarnie tin lode, is worth 12l. per fm.—driven 2 fms. 1 ft.; in the 12 fm. level west, on ditto, the lode is worth 5l. per fm.—driven 2 fms. 4 ft. 6 in.—S. LEAN. R. JOHNS.

WHEAL MEXICO (near Callington).—June 10.—We have succeeded in cutting the copper lode 5 fms. below the adit; but in consequence of the deficiency of top water, we are unable to drive on it. The lode is a very strong one, about 14 foot thick, composed of jack, munda, and a little copper ore, very promising. As it seems we are likely to drain the lode 4 fms. deep, it is our intention to sink a winze on the best part of the lode, at the adit level going eastward, when we anticipate raising some good saving work. But should the top water increase, we hope to resume our working at the 5 fm. level. For the present we have suspended operations on the silver lode, as we have not been fortunate enough to find it, to the west of the cross-course.—W. KNOTT.

FOREIGN MINES.

ANGLO-MEXICAN.—Guanajuato, April 24.—Anuncio.—I have been unable as yet to visit the workings of this mine, but I have fixed an early day for the purpose, as, by that time, I hope the part called the San Pedro will be ready for my inspection and judgment. Our profits on the month would have been greater, but for the intervention of the holy week, which gave us not more than three days' workings, and even those but feebly availed of by the buscones; whilst, on the contrary, all the current expenses continued much the same.

	Memoria.	Sale.	Profit.	Loss.
March 21	\$ 628 5 6	\$ 1448 3 0	\$ 95 4 0	—
28	613 2 2	1270 1 0	21 6 4	—
April 4	766 3 11	1854 5 0	160 6 7	—
11	504 5 0	867 7 0	—	\$ 70 5 6
18	420 4 3	1821 2 0	490 0 9	—

Loss.....\$ 768 1 8

Profit on the five weeks.....\$ 697 4 2

Total number of cargass 956, at the average price of \$7½ per carga. This is an improvement in price over the previous month of full a dollar per carga, and the prospect of continuance is not as yet diminished.

Sirena.—This mine has given no profit for the month.

Financé.—The usual document is enclosed exhibiting an asset of \$78,523.

BOLANOS MINES.—San Clemente, April 17.—San Clemente, San Nicolas, and Malancho Mines.—In these mines the workings left by our parados d'obra, and surrendered to the buscones, have been greatly exhausted, and some of them—the bottoms of La Luz—have been abandoned even by them; the raising during the week ending the 28th ult., was only 216 cargass; and that ending 4th inst., 186 cargass. Since then the working has been interrupted by holidays; but now that the weeks are unbroken, we shall suffer a further diminution, as the exhaustion of these workings becomes more complete—no new discovery being made to replace them. The west end of La Luz has occasionally shown small specimens of ore, but no carga has been filled from the bargain, and it promises badly for the future. The bargain on the lode of San Jose has continued as before, with a narrow vein of pyrites, assaying 8 to 12 marcas per monon, but in much too small a quantity to pay the costs of driving; it is, however, still continued, for the chance of improvement. Such further economies have been made as the diminution of work has rendered practicable. The general shaft, and that of San Nicolas, have been entirely closed, and that of San German is worked only by day by one malacate. Instead of bringing the attle to the surface, it is now thrown into the old workings, with the precaution, however, of keeping all the stopes free; and, for this purpose, and all others, the old timber underground is made available, so that little or no new timber is expended. The drainage is performed by two malacates, by day only, in Rondanera.

San Francisco de Paula Mine.—The squaring down of the shaft has been completed; and, for the last fortnight, the sinking in the bottom has been continued, and at present we have gained a total depth of 18 varas below the 125 vara cross-cut. A considerable feed of water has been cut, which employs half the malacate to keep it in fork, and we shall very soon require another malacate. The sinking of the water level in the bottom of the mine is yet barely sensible. The buscones have been well employed in this mine, in number from 40 to 50, between day and night, and at present there are more. Since the two extra bargains in the shaft have been completed, the ore raised must be little short of paying the expenses. We have commenced clearing out the rubbish from the old workings in the east end of the 125 vara level, which is now done at a trifling cost. I hope to lay open veins of ore which will attract our buscones and increase our produce, but the main reliance of the mine is on the ores now under the water level.

Loreto Mine.—The cross-cut has been continued without discovery. **Celestina Mine.**—The 100 vara cross-cut has cut the Celestina lode in borrasca—the only sign of ore being a narrow vein of bronze caldero, without silver. This has disappointed me greatly. The cross-cut is continued, to see if there may not be another, and a better, branch in the south; and when more has been seen of the lode in the higher levels, such trial as it may deserve will be given to it at the 100 vara level. The 64 vara cross-cut south has advanced about 12 varas; at 17 varas it ought to cut the Celestina lode, which we shall look for next week, and that of the Mayorazgo should be cut before it. The two ends on the Mayorazgo lode have become very poor, the ore being reduced to veins of 2 to 4 in. in width, so that the raising has fallen off greatly. A Guia winze was commenced a fortnight since on this lode, to serve as footway to the 64 vara level, should it be found deserving, and to explore the lode; it has now been sunk 5 varas without water—it is also without ore. From the present week a bargain has been set on the widest part of the ore in this lode, for the object of breaking this ore, since the water ceases to trouble us; as the bunch has given out in the roof and the two ends, I fear it cannot be expected to reach to any distance in the bottom, but it will for the moment give us some assistance in good ore. The north cross-cut, at the 64 vara level, is also resumed, to try the lode called El Principe, at about 40 varas distance.

Statement showing the General Result of the Mines and Haciendas for March:—

Mines.	Profit.	Loss.
San Clemente Mine	\$ 75 2 2	—
San Nicolas	578 6 2	—
Malancho	1096 2 3	—
San Rafael	\$ 2366 7 0	—
Veta Bella	—	41 7 5
Loreto	—	256 7 5
La Celestina	4055 0 2	2639 7 6
Disputed ground	3422 6 2	—
Haciendas	—	—
Loss	\$ 10244 5 4	\$ 4739 1 7
Profit	\$ 85505 3 3	—

IMPERIAL BRAZILIAN MINES.—Gongo Soco, March 23.—So much has been done at and below the 70 fm. level, both east and west, and all unsuccessfully, that I fear we shall very shortly have finally to abandon that part of the mine, and confine our labours to such portions remaining elsewhere, as will repay the cost of working with blacks, as also to the other works of research in progress. At Catta Preta, Thomas's lode will have received sufficient trial at, or shortly after, Midsummer, and with fair success; the San Antonio lode will have been explored about the same time—if unsuccessfully, I see nothing to delay breaking up that branch of the establishment forthwith; you may rely on our not trifling our time in useless speculation, or unpromising trials. The workings at Catta Preta do, indeed, look small, considering the time and money they have cost, and the trouble we have had with them, scattered as they are; we have explored the surface of the intervening spots, and believe they do not deserve further trials. We continue to drive two cross-cuts southward from the 70 fm. level, at Vese's, and one northward; a cross-cut northward from near Aveine's shaft, at the 27 fm. level, and one northward into the mountain side from the surface, but neither of them has yet yielded anything calling for remark. I am happy to observe, that on extending the shallow level, east of Bray's shaft, on a south vein, we have obtained a few pounds of gold, and the appearances warrant us in expecting more. I am informed, that the great western stamps never before gave so good a produce as at present, from the jacotinga obtained from this spot. Although this considerable improvement in new ground is very encouraging, I would not willingly excite hopes which may be disappointed; a short time will, however, show the value of this discovery. We still continue our trials near Taboleiro, but hitherto they have been unsuccessful. At Catta Preta, we hope to reach the lode at the 18 fm. level, from Thomas's shaft, early in April, and a trial at the stamps will immediately commence. We have still much difficulty in reaching the lode at the 20 fm. level, from Fitzpatrick's shaft, but every force and means possible are in request, and a very short time must either bring us to the lode, or drive us from this point to some other, as the dry season is at hand; I believe we shall reach it shortly. April 3.—In extending our western cross-cut southward, at the 70 fm. level, we intersected (as we intended to do) the formation which covers the south jacotinga—the sand, of which it for the most part consists, burst forth with great violence, filled the cross-cut, and, reaching the shaft, choked the pumps for a short time; the inconvenience was, however, but temporary, and everything is again in order; this, however, terminates our labour in that part. I am happy to say the vein near Bray's shaft continues to give gold, and I hope will give work for the washing-house, as well as returns at the stamps; every expedition is being used to lay it open at other levels, and I hope two or three weeks more will enable us to work the backs, which we are sanguine will give us better returns than we have had for some time. The stone (which I recognised as the equivalent of that giving gold at Cocas) in our cross-cut, north of Lyon's shaft, at the 48 fm. level, is being proved at the stamps; the result cannot yet be accurately determined, but I rejoice to say it shows considerable traces of gold—so that I have little doubt we shall find it necessary to make much further examination of this part of the mine, although we are certainly not rich, my hopes are higher than they have been for a considerable time past; and, though our returns are still small, they are the best we have had, for two years. An unfortunate breakage of the pump in Thomas's shaft, at Catta Preta, has altogether impeded our progress there since my

last, but we hope to be again in order in a few days. At Fitzpatrick's shaft we are still baffled by the softness of the ground—a difficulty you will remember I anticipated on my first visit there. I hope next month may enable us to make some returns, though at first they might be trifling.—*Gold Workings.*—From March 2d to 31st, 46 lbs. 11 ozs. 13 dwts.; and from the 1st January, 102 lbs. 7 ozs. 5 dwts. 13 grs.—W. J. HENWOOD.

NATIONAL BRAZILIAN MINES.—Cocac, April 3.—Since our last reports no ore has been extracted from the mine, as the force has been employed in laying down a tramroad from the interior of the mine to the stamps; this work would occupy the next 10 days before its completion, when the stuff from the mine will be trammed out, and the stamps set fairly at work. Good progress has been made in sinking the winze, from which favourable samples have been taken, and the stone presents as favourable an appearance as from any other parts of the mine.

Produce from Cocac.....Marcas 4 7 5 60
Ditto from Culaba.....13 4 10

Total.....18 4 1 70

March 13.—In support of the opinions which I have, from time to time, addressed to you regarding the Serra Velha Mine, I beg to hand the result of a minute survey of the same made by our mining captain, Thomas Kinsman, who has examined the mine several times during the last three months, and coincides with me in every respect; also the opinion of Capt. Thomas Martin, who has the management of the Azoa Quente Mine, and who has always been considered a good miner, having had 20 years' experience in Brazil mines; he pronounces the Serra Velha to be one of the best mines hitherto discovered in Brazil.—JOHN HITCHEN.

Survey of the Serra Velha, by Capt. John Hitchen, Thomas Kinsman, and Thomas Martin (formerly of the Gongo Soco Mine).—The formation on the southern side of the Serra Velha forms a powerful bed, presenting a thickness of from 40 to 50 fms., but varies considerably in thickness; it is, however, much larger in the vicinity of the present works, than we have seen it at any other part of the Cocac estate. The most extensive lode, or auriferous part of the formation, which has hitherto been opened since the late discovery, is at Oxenford's stopes; these stopes are opened to a width of nearly 5 fms. long, and 2½ fms. high. This we consider to be a fair proof that the discovery is not merely a shoot, or deposit of gold, by the continuation of any vein or line, which may be supposed to have come down in a soft layer of jacotinga—for instance, the lode at Waller's stopes (in the shallow adit to Waller's shaft), which is 50 fms. west from Oxenford's, is just the same thickness, and the same kind of stone, and profitable stoned for the stamps; here it can be easily understood, that from the western extremity of Waller's to the eastern of Oxenford's stopes, is nearly 60 fms. Any part of the iron mica slate about or near our works, broken and pounded, shows gold in the batea. The constituent parts of the jacotinga are iron, mica, and quartz—the latter generally of a very soft nature, or decomposed state; but in the lode which we are now working, the quartz is very hard and compact, as well as the iron mica slate. A place in the side of the Bandeira level is now opened for sinking the winze, mentioned in last report, which will now be commenced; here the lode is also found above Oxenford's stopes, about 18 fms. on the inclination of the lode; a sample has been taken from this place and pounded, which produced exceedingly well—this is also a proof of the extensiveness of the ground already discovered, and which must be very satisfactory to all interested. The Serra Velha Mine having been so long abandoned, every place was found either crushed together, or very much out of order, and will require some time to put the mine in a good working state, as also some expense; but it should be considered, that the ground already opened will, in a short time, give returns sufficient to meet any expense, which will be requisite at this mine.

PACHUCA MINES.—April 27.—Rejuna.—The clearing of attle in this mine has been suspended since the latter part of last month. At San Miguel the lode in the shaft is again presenting a favourable appearance—it is becoming softer, and producing promising pintas of metal, although the assays do not exceed 4 or 5 mcs. per monon. It should be remembered, however, there is a large part of the lode remaining unexamined on the south side of the shaft, but which we purpose cutting into at the 60 vara level.

Esperanza.—In the Esperanza shaft there seems to be no decided alteration in the nature of the vein, although we have latterly met with stones of ore, of a kindly appearance, containing from 12 to 15 mcs. per monon. The great mass of the vein, which is from 5 to 6 varas wide, is still composed of white quartz and red jabolos. Seeing a similar kind of vein in the 95 vara level, driving west of San Buenaventura, we deemed it prudent to suspend this work, and carry on that of the shaft only, which we hope will, at a greater depth, discover ore.

Guadalupe.—In this mine we have for the present suspended the sinking of the shaft, as Capt. Trener reported the vein to be unpromising; but I have ordered men to be employed in driving the 108 vara level north-east, through the channel of ground referred to in former letters, in the hope of discovering ore on the eastern side. We are still sinking the shaft of San Pedro; the vein is very wide, exceeding 16 varas; and as the ground is easy, and contains a ley of about 5 mcs. per monon, I think it worth while following down, in preference to driving a cross-cut from Guadalupe, at the 108 vara level.

San Gabriel.—In consequence of the scarcity of labourers, the shaft has only been cleared about 6 varas; but it is now taken by a good party of men, and I expect soon to reach the bottom.—Total expenditure in March, \$1466.

REAL DEL MONTE MINES.—Mineral del Monte, April 27.—Your dispatches of the 28th February, came to hand on the 17th inst. I have not failed to notice, for some time past, the advantages which Mr. Bowring's process has obtained over that of Moreno; and you will perceive by the accounts, that the patio at Regla has been wholly conducted on this plan, since Mr. Bowring's departure, by Mr. Woodfield, and with good effect, particularly in the last three months. The barrels continue to give very uniform results, both with respect to the loss of silver, quicksilver, and cost of beneficio; and as by this method all classes of ore can be equally benefited, I think that after a while it will, probably, supersede the patio entirely, especially as by Mr. Spangenberg's improved method of calcining the ore, the barrels will, in future, be discharged once in 12, instead of once in 24, hours. Mr. Spangenberg has consented to take this department for a short time under his own special direction; and, from the favourable results already obtained since this improved method of calcining has been introduced, not only is there a less loss of silver, but the time is materially shortened, and the cost less. For instance, formerly the furnaces were generally charged once in each 12 hours, at present the operation seldom exceeds five hours; and, again, the quantity of salt is reduced from about 7½ to 4 per cent. I beg to hand you inclosed a letter from Mr. Spangenberg, dated 24th inst. The results of his first trial on 58 quintals of ore, it will be seen, are very satisfactory; we are now making preparations to increase this establishment for reducing a larger quantity. In the first trial, the process proceeded very slowly (24 to 36 hours), but Mr. Spangenberg expects to be able to overcome this; it will, however, still be necessary to augment the number, and put up larger tubs than those at present in use. A great number of people in this neighbourhood have anxiously watched these trials; and I believe nearly all parties are of opinion, that it will very soon supersede all other methods of reducing silver ores in this country. Considering such may, possibly, be the case, I am hesitating with respect to the completion of the 16 new barrels proposed to be erected at Sanchez. Nothing, however, will interfere with the speedy erection of the water-wheel, and if this new beneficio should be found to answer better than the barrels, we might then attach 20 or 30 stampheads to the wheel—thus increasing the grinding by water—instead of by mules, as proposed at present. In order, however, to avoid being thrown much out of our calculation with respect to this hacienda, I have given instructions to continue the works now in hand for the barrels, which will not cause much extra expense, even supposing the wheel should eventually be used for grinding, instead of working the barrels. I noticed, in my letter of last month, that the grinding power at Sanchez, when the additional arrastres are completed, would be equal to about 560 cargass per week; but if the 16 barrels, now in hand, are completed, and discharged twice instead of once in each 24 hours, we shall require nearly double that amount of grinding, for which means must be devised hereafter. By Mr. Woodfield's letter, dated 24th inst., you will perceive that the returns from Regla patio of last month were considerably less than the estimate—Mr. Woodfield having deemed it expedient to delay the washing of three or four tortas, in consequence of their not being properly rendido, but which, in the earlier part of the month, he expected to have brought in. In the first three months of the year there were 927 montones ground in this hacienda, whereas only 730 were washed—leaving a surplus of 197 montones for the second quarter.

By the statement of the costs and returns for March, it will be seen that the total silver produce amounted altogether to only 27 bars, comprising 12 from Regla patio, 9 from the fundiciones, and 6 from Sanchez—total value, \$32,000. The mines' costs amounted to \$25,400; general expenses, charges on produce, alimentos, &c., \$6589; and the haciendas, \$22,270—making a total of \$54,360, thereby showing a loss of \$22,360. The reason of the small returns from the fundiciones I explained in my letter of last month—namely: the breakage of the main rods in the Dolores diagonal shaft, which prevented the working in the Santiago level west, and in the San Enrique and San Pablo bottoms, and which compelled us, for upwards of a fortnight, to suspend the working of the fundiciones. During this time also, it should be borne in mind, that Acosta Mine was nearly full of water while Terreros engine was being erected; and, besides this, there was not less than \$8220 for stores at Regla, brought into this month's account, which should have been entered two months before; there were also \$2820 charged for materials, &c., for San Antonio hacienda. For the present month the returns will, I expect, be something better than the estimate—say, about 42 bars—and even during this time we lost nearly one week's work on the best labores, on account of the holy week. However, after all these misfortunes and drawbacks, I have the satisfaction of informing the directors, that our prospects of future returns have, of late, decidedly improved. In the last week there will be seen a notable increase, both of azogue and smelting ore;

the latter, however, is, at the present moment, of the greatest importance—and as you will perceive by Capt. Rabling's report, that the lode in the Santiago level, west of Dolores, is about three quarters of a vara wide, a large portion of which is smelting ore, assaying 150 mcs. per monon, while the remainder is azogue, containing from 25 to 30 mcs. per monon; and taking into consideration that this place is about 15 varas east, and 17 varas below the San Pablo winze, there is reason to expect that the whole of this piece of ground will turn out to be productive. I, therefore, venture to estimate for next month a profit of \$13,300; and, as this ore ground seems to be lengthening in the Santiago, there is every probability of its continuing for a considerable time to come; I expect, therefore, we shall go on making profits for the remaining part of the year—if the ore continues as at present, there can be no doubt about it. By Capt. Skindill's report, you will be informed the last new engine at Acosta was put to work on the 2d inst. I trust we have at last overcome all difficulties, as the engine works remarkably well, and keeps the water very easily. Capt. Skindill speaks of a winze called San Pascual, situated 246 varas south of Acosta, below San Antonio level, in which there is a bunch of smelting ore about a foot wide, which assayed on Saturday last upwards of 200 mcs. per monon. This winze is in the neighbourhood of San Cayetano, where we raised some very rich ore in May last; but the lode is very buncly, and we cannot, therefore, place much reliance upon a continuance of this class, although of azogue ore there is great probability of its being found in abundance. At Rosario the raising of ore has got up to near 350 cargass per week; the mine assays average from 9½ to 10 mcs. per monon, and I expect will give about eight in the hacienda. The quantity of ore might easily be increased; but, as at present there are no means of reducing it, I propose confining the raisings to merely sufficient to supply the hacienda for Sanchez.

ST. JOHN DEL REY MINES.—Morro Velho, Feb. 27.—Hoads working during 27 days, 684. The supply of ore is pretty well maintained, but the increased supply, in consequence of the increased force, is very considerable, viewing the quantity of the increased force. Mines: The stall along the United Mines is being proceeded with at every available opportunity—this is a very desirable work to have completed now for the safety of the people below. The Cachoeira shaft is being worked down perseveringly night and day without intermission. Capt. T. Treloar has a long report ready, on the future working of the mines, which will go prefixed to his next monthly report. March 9.—Produce for Feb., 10,764 oits.—108-113 lbs. troy, from 2564-8 tons of ore equal to 4-197 oits. per ton, which is a shade lower than last month; 313 tons have been rejected. It would not appear, at this rate of picking, the ores of the United Mines and Cachoeira Mines would give more than 4-287 oits. per ton, for the separate stamping of the ores of the United Mines have given this rate during February; and if the Gamba ores, and produce at the rate of 3-12 oits. per ton, be deducted from the remaining ores stamped, the Cachoeira ores will be found to have yielded 4-287 oits. per ton—of course there will be some variation in this, particularly in the Cachoeira, which have not been stamped all over, as in the United Mines; the arch, between Pengilly's shaft and the Cachoeira shaft, has been completed, which will greatly facilitate the speed of working down the ground at this section of the mine. Cost for February, rs. 27,758 \$789, equal to 3007.43 ds. March 19.—Heads working 18 days, 684; the supply of ore has been good. March 29.—Heads working during 28 days, 684; the supply of ore has been ample, excepting during the time the segments were being fixed on the hauling machine. About 36 hours' hauling were lost by this operation from the United Mines; in the mines, everything is going on regularly. Received, per packet, 241 lbs. 11 ozs. 9 dwts. of gold, valued at about 9600£ sterling.

UNITED MEXICAN MINES.—Guanajuato, April 24.—Mine of Rayas.—I inclose Mr. Glennie's report upon this mine, to the 23d inst., and must refer you to that for the state of the workings. The general produce of the mine for the last four weeks presents the following statement:—

4 wks. end.	Picked ores.	amt. sales.	Outlay.	Excess of Outlay.
Mar. 21.—Cs. 1985	8,351 1 0	\$ 17,252 1 2	—	\$ 7,901 0 2
Apr. 10. „ 18794	7,104 7 4	16,867 6 3	—	9,762 6 7
Cs. 1054	\$ 2,246 1 4	8 384 2 7	—	\$ 1,861 6 5
Decrease.	—	Decrease.	—	Increase.

The balance-sheet of the ores reduced in the hacienda of Barrera, in the month of March, shows a surplus of \$8514 2 6. This surplus arises from the Raspa having entered into this month's account, and appropriating to the general debt of the mine the part thereof assigned for its payment; that debt has been reduced as follows:—

Amount on the 31st January last.....	\$687,877 4 3
Amount credited this month (March).....	4,789 2 4

Total debt on the 31st March.....\$683,088 1 7

Quicksilver.—The very large quantity of this article now required for the haciendas, in consequence of the high ley of the ores under reduction, has much reduced my stock; I have, therefore, purchased a small lot that was offered me at a moderate price, and further purchases will be necessary before the first shipment from England can possibly reach here.—W. HEATH.

Report on the State of the Workings of the Mine of Rayas.

April 23.—La Purisima.—The system of work mentioned in last month's report, is still being pursued on this side of the mine, without any material variation in the produce.

San Lorenzo.—In consequence of a communication between the two workings that were being followed up in a small piece of solid vein, the produce from this part of the mine increased for two or three weeks, but has now again somewhat decreased, resulting from the absolute necessity of securing the upper part of the lode, by raising dry walls for that purpose; and, until these are completed, the operations of the barman are on a more limited scale: 10 pair of barmen have been employed by day and 11 pair by night.

San Cayetano.—The ore met with on the north-west side of the pit of La Luz, proved to be of such an ordinary character, and also expensive in picking after having been extracted, that the barman have been removed to San Miguel, where they are employed to more advantage.

San Miguel.—In one of the workings, San Dario, on this side of the mine, a decided improvement has taken place during the last fortnight, similar to the favourable changes which not unfrequently present themselves in these workings, but which hitherto have, unfortunately, not been of long duration; some threads of ore, of good quality, are now found running through the common classes, which have likewise increased in quantity. The other workings have not varied since the last report: 13 pair of barmen are now employed by day, and an equal number by night.

Santa Toribio.—In four weeks 6-48 varas have been driven towards the upper body of the lode. The position of the advanced point of the working is now in that part of the vein which lies between the San Miguel and Malancho bodies of the lode.

Santa Cecilia.—4-17 varas have been driven in three weeks. The general formation of the vein continues the same as usual, but contains less appearance, and fewer spots of ore.

San Mano.—Since the last report 6-11 varas have been advanced, without any variation presenting itself.—In the points worked on joint-account by buscones, there is nothing that calls for particular remark on the present occasion—the general produce is composed of the common classes of ore, and it appears that the ore-purchasers pay a fair price for the different lots. There is a considerable decrease in the amount of half sales for the last month, as compared with the period embraced in the former report; and, although it is mentioned in this report that there has been an increase of ore, both from San Lorenzo and San Miguel, while the statement shows a decrease of general produce, this difference is explained, by stating, that the ley of some considerable portion of the Tierras, which formerly entered into the general produce of the mine, has become so low, that they will not now cover reduction expenses. The water in the great shaft is being gradually lowered, and it is probable that, ere long, a part of the present heavy drainage will be got rid of.—G. R. GLENNIE.

[FROM CORRESPONDENTS.]

BOTALACK MINE.—The general prospects of the mine were never so good, especially in the tin ground. The monthly returns of copper is expected to be considerably increased in about four weeks from the present time, as the 125 fm. level will be shortly under the 115 fm. level, where a bunch of ore held 50 fathoms in length.

CUBERT CONSOLS (late Wheel Golden).—This sett, which was formerly worked for silver-lead ore, and abandoned about 20 years since, through a disagreement among the adventurers, has been taken up by some enterprising adventurers, and a prospectus will be immediately issued for the formation of a new company. It appears, although abandoned, some of the parties intended to take it up at a future time, as all the pit work, pumps, flat-rods, &c., have been left in the shafts and levels, and, having been ever since under water, are supposed to be in good condition. From the statements of many miners in the neighbourhood who worked in this mine, it appears, that formerly a smelting-house was attached to the works, and that ore was raised faster than they could smelt it—the quantity being from 80 to 90 tons per month; 10 to 13 kiddles generally raised a ton of ore, and each fathom produced on an average 50 kiddles of ore. They all state, that the moment the water is in fork, a number of tribute pitches might be immediately set, and that in the bottom level, north of the engine-shaft, the lode is 11 in. big, nearly solid; the last two months, previous to stopping, 50 to 60 tons per month were raised, at a cost of only from 40s. to 60s. per fm. The following is a report on this mine, from Captain Pill, of Porran St. George, dated May 29, and which is fully borne out by one we have seen from Captain Webb, of Rose Consols and Wheel Dyke:—“The 43 fm. level is driven north of the engine shaft about 100 fms., and about 70 fms., and has been productive to the north. The 66 fm. level is driven north of engine-shaft about 90 fms., and is exceedingly rich for 70 fms. in length, worth on an average 2½ tons per fm.; driven south of engine-shaft 50 fms., lode improved. The bottom level is worth double as much as any of the others. This mine is the best lead mine I ever saw in my life, and

would not have been stopped, but for disagreement among the adventurers. In our advertising columns will be found an advertisement from Messrs. Smith, Julian, & Co., who will show specimens, and give every information.

ROBERT POWELL CONSOLE.—The first casting of the new engine (40 in. cylinder), now in course of erection on this mine, was delivered on the 6th inst., and actively pervades the different operations—while the pump shaft, to which main attention will be directed, will, in due time, be sunk with all energy; the prospects in the adit, going west, in the granite, are promising. The engine-shaft is being sunk in the killas as easier ground, and enabling them to get down with greater dispatch—the sett being partly in that strata; the extent is 600 fms. on the run of the lodes, of which 200 fms. is in killas, and 400 fms. in granite. The locality of this mine, from its contiguity to others, which have yielded returns to so considerable an extent, renders it a favourable adventure, and of which a high opinion is entertained by parties here.

TRUTHFUL DOWNS TIN AND COPPER MINE (situate in the parish of Sithney).—The sett is contiguous to, or only about a mile and a half eastward of, the celebrated Wheal Vor and the Great Work tin mines, half a mile north of the rich tin mines of Wheal Trumpet and Wheal Ann, and about a mile from Wheal Lovel, and the formerly well-known very productive tin mine, Trevenen. Its extent is about half a mile in length, and nearly as much in width, wherein several most promising lodes are already discovered, but the immediate object of the present proprietor, who will continue 1-16th of the undertaking, is to recommence the sinking of the engine-shaft, now about 20 fms. deep, upon the course of the lode upwards of 12 ft. wide, producing fine stones of tin and copper ore, iron pyrites, fluat of lime, quartz, chlorite, &c.; and, in short, abounding in such appearances as leave no doubt with experienced miners of its leading to a rich deposit of tin, in sinking a few fms. at most. It is at present intended to continue to sink the engine-shaft upon the course of the lode, until a valuable deposit of metalliferous ore shall be met with; it is easy, therefore, in the absence of immediate returns, to calculate the utmost amount of monthly expenditure, after a steam-engine, which it is proposed to erect, shall be completed; though there is a positive certainty of making returns to some extent, from the commencement. It is proposed to divide the mine into 1000 shares, at 3s. 10s. per share, and worked on the cost-book system.

WHEAL CREEG is situated near the north coast, in the parish of Perranzabuloe, in the county of Cornwall, and about 300 fms. to the east of Perran St. George United Mines; within this sett, are various tin, lead, and copper lodes. In the year 1834, operations were commenced in this mine by a respectable company of Cornish gentlemen, who expended upwards of 8000l. in extending adit levels through and from adjoining setts towards the old mine to unwater it, which some considerable time previously had been worked to the depth of the adit level by "old tinnars," and from whence enormous quantities of tin had been raised; but in consequence of some of the adventurers being in arrears of cost in the year 1844, the company became dissolved, so the object of this outlay still remains to be accomplished. Those adits will certainly be of very material advantage to the future working of the mine, inasmuch as it is a vast amount of work done towards the accomplishment of the object. It is proposed to divide the mine into 128 shares.

WEST SHEPHERDS MINE.—This mine is looking as favourable as ever, and bears indication of even greater improvement; it is now 17 months since the present agent (Captain Skewes) resumed the working of the sett, and during which time efficient machinery has been erected for the draining of the mine, drawing stuff, crushing ores, and for other necessary purposes; several scores of fathoms of ground have been explored; a good lode of silver lead ore has been discovered; and several tons of this valuable mineral have been brought to surface, leaving a rich lode to work upon in the bottom of the level, when it is cut at a greater depth, to drain off the water that is now flowing over it. The engine-shaft has been sunk to a deeper level, and a cross-cut is in course of driving to cut the lode, which will be done very shortly. The mine is held by a few adventurers in Redruth, Falmouth, &c., and is bidding as fair to remunerate them for their outlay as any other mine in the neighbourhood.

WHEAL TRIHANE is situate in the parish of Menheniot, and immediately north of Wheal Trelawney, having the same lodes running through the sett. The shaft is now down 20 fms., and they have just commenced driving to cut the lode at that level. From the increase of water in the end, they fully expect the lode nearer than their calculation from its underlay, when seen above.

ABERDARE AND ABERNANT IRON-WORKS AND COLLIERIES.—The sale of these properties, under an order of the Court of Chancery, in the cause, *Scale v. Thompson, Fothergill, and others*, took place, pursuant to advertisement, at the Gray's Inn Coffee-house, on Thursday, the 11th inst. The room was attended by parties interested in the iron trade, among whom we noticed Mr. Alderman Thompson; Mr. C. Bailey, Nantyglo Works; Mr. C. Harford, late Ebba Vale Works; Mr. John Powell, Clydach Iron Works; Mr. A. Hill, Plymouth Iron Works; Mr. Forman, Penydarran Works; Mr. Forthergill, Tredegar Works; Mr. Scale, and others. The biddings for the property may be considered as almost confined to the two former gentlemen, the property being knocked down to Mr. Ald. Thompson at 75,000l., subject to the stock, plant, &c., being taken at a valuation, which, we were given to understand, was estimated at 60,000l. to 65,000l.—making the entire purchase 140,000l. This is, however, we consider an insignificant sum for the works, as they stand now, in active operation, and making 850 tons of pig-iron per week, with capabilities to render 250 tons of bar or rolled iron. With reference to the stock, nothing transpired as to the principle on which its value was to be estimated, which appears to us to be an oversight, as there can be no question that ironstone, for instance, may at one period be comparatively worth 20s. per ton, and another only 5s., although the cost of raising may be 10s. or 12s. per ton. This is a matter of some little moment, and we think it strange should have escaped attention.

THE KENMARE MINES, ARDTULLY, IRELAND.

TO THE EDITOR OF THE MINING JOURNAL.
Sir,—At the present time, when the mineral wealth of Ireland is attracting some of the attention of capitalists, and when two new mining companies are formed especially for working the mines of Ireland, allow me to call to their notice the copper mines of Kenmare, in the county of Kerry. I have some recollection of the working of these mines in 1840 by a London company; and that the specimens of ore (the blue carbonate), as analysed by Mr. P. Johnson, of Hatton Garden, were stated to produce 40 per cent. of copper, and 17 ozs. of silver, to the ton of ore. Now, Sir, can you, or any of your readers, inform me, through your valuable columns, if they are now working, either by a company, or privately by Mr. Dillon Croker, the proprietor of the manor of Ardully—or, if entirely abandoned; and, if so, from what cause? A FRIEND TO IRELAND.
Lombard-street, June 10.

BOTALLACK, WHEAL COCK, AND NORTH UNITED MINES.

TO THE EDITOR OF THE MINING JOURNAL.
Sir,—In your last Number, we read, in sequence, notices of Botallack, Wheal Cock, and North United Mines. These three mines being all in the same locality, I cannot be mistaken in contradicting your communication as to the North United Mines: it is true they have some favourable appearance at the point spoken of; but abominating, as I do, all attempts at exaggeration, I cannot allow the notion to prevail, that the mine is "considerably improved," or that there is a "good course" of ore in any part of the mine, although I think well of the speculation. I believe those who know most of the state of the mine are most puzzled to know how the report originated. A MORZ.
Illogan, Cornwall, June 3.

MINERS' CLUB.

TO THE EDITOR OF THE WEST BRITON.
Sir,—The letters of Mr. Paynter and "A Cornish Miner," I trust, will not be overlooked by those who can alone effect the object at which they aim. It was my hope that the "Miners' Society" would have done this good, among many others; but, alas! like too many, the offspring of the wise and good, it died for want of support. The labouring miner is the "first" adventurer; and we cannot see him, after the waste of his energies and his life, coming to the "Union" for a miserable support, without feeling he has deserved better—much better. He has contributed to the mine club, but having no "visible hurt" (the pale face and labouring chest are not "visible") he is told at the mine he is not entitled to support. To say nothing of this great injustice, ought there not to be in every district a club, based upon such principles as should amply take care of the labouring miner, when, through age, accident, or disease, he is unable to work? To effect this, it only requires that lords and adventurers should take it up. Passing by the benevolence of the object, is it not for the advantage of "all" that the working miner should provide for himself? This involves the miner's present and future welfare. It would lessen the heavy burthens that fall upon the rate-payer—especially the poor rate-payer. It would be a comfort and support to the labourer to know that he would not be driven to the relieving officer in the event of his health and strength giving way; and, let it be remembered, that "destitution is demoralising." There is every reason why those whose duty it is should give this subject their best and immediate attention.—A CORNISHMAN.

ASHMURTON.—The Old Whidden Tin Mines, on the lands of Mr. H. Caunter and Mr. E. Smardon, are commenced working by clearing the main adit; it is expected that these works will be a profitable undertaking; as it is probable, that a stop was put to them for want of improved machinery in the last century. At West Beam the main shaft is sinking much deeper, the present depth being about 400 ft.—*Perranance Gazette.*

BRIDGEWATER FOUNDRY, NEAR MANCHESTER.—A very gratifying testimonial of respect has been paid to the foreman of Messrs. Nasmyth, Gaskell, and Co. by the workmen given an entertainment at the Unicorn Inn, Peel Green, and presented him with a splendid silver cup, value 40l., with the following inscription:—"Presented to Mr. A. B. Terry, by the workmen of the Bridgewater Foundry, Patricroft, as a mark of their esteem—June 3."

PACHUCA MINING COMPANY.

The second annual general meeting of proprietors was held at the offices, Adelphi, on the 28th ult.—Sir ROBERT PRICE, Bart., M.P., in the chair.—The circular convening the meeting having been read, Richard Williams, Esq., was re-elected an auditor. The statement of accounts submitted, showed, as receipts—balance from last account, 1728l. 16s. 8d.; second instalment, 2000l.—together, 3728l. 16s. 8d. Disbursements—bills drawn from Mexico, 2600l.; for salaries, income tax, and general office charges, 229l. 17s. 11d.—together, 2829l. 17s. 11d.;—leaving balance at bankers of 898l. 18s. 9d. The expenditure account showed the cost of management as 8384l. 5s.; tutwork, 8771l. 1s.; stores and sundries, 8254l. 4s.—together, 13,608l. 2s.; which, with the expenditure during 1844 of 813,111, makes a total cost, up to the 31st December last, of 26,719l. 2s.

The following report from the directors was read to the meeting:—

REPORT

The period for holding the annual meeting of the shareholders of the Pachuca Mining Company having arrived, the directors now submit the usual accounts, and a report on the state of the mines as communicated in the letters from Mexico to the 28th March last. By the account of sums charged to the mines in Mexico, it appears that the expenditure in the year ended 31st December last, amounted to 13,608l. 2s., which added to 813,111 in the year 1844, makes the whole outlay of the company amount to 26,719l. 2s. This sum has been very economically applied in the prosecution of several important trials in the mining ground held by the company; and although the Rejona Mine seems likely to be a failure, from having been previously worked more extensively than expected, there are some very promising indications in the other mines which the directors trust will shortly lead to discoveries of silver ore in abundance.

Esperanza.—Since the last annual report, the shaft of this mine has been sunk 75 varas, the total from surface being 140 varas. At this depth a favourable change appears to have taken place in the vein, which, although not rich, contains silver. Capt. Treneer reports four assays from the mine, of which one, 6 varas above the bottom, gave only 13 ozs. of silver per monton; while a stone from the bottom of shaft yielded 2½ marcs; and Mr. Kule, who wrote four days after Capt. Treneer, states that the latter brought him an assay the day before, which gave 15 marcs per monton, which it is hoped may prove to be an indication of the proximity of a course of ore in this mine, and particularly as the shaft is approaching the depth at which Mexican mines are more generally found productive. The 95 vara level from the San Buenaventura shaft, at the eastern boundary of the Esperanza pertenencia, has been driven 140 varas upon the vein, and has occasionally passed through small bunches of ore. One object of this level is to cut the Grande vein, which intersects the Esperanza vein somewhere between the present end of the level and the Esperanza shaft. The Grande vein being very productive within about 150 varas of the company's ground, there is more reason to expect discoveries of ore at or near the point of junction of the two veins.

Santa Clara and Guadalupe.—The 108 vara level from Guadalupe shaft having been driven about 80 varas on a large vein yielding some ore of good quality, intersected a cross channel, 15 varas wide, of poor ground, which threw the lode out of its course, and it has not yet been discovered on the other side. The shaft is now sinking for a new level. The old shaft of San Pedro, on a vein north of Guadalupe having been cleared to a depth of 81 varas, is now sinking at a cost of 88 per vara only. The vein is very wide, and the part sinking on it is composed of white quartz, spotted throughout with ore. Captain Treneer states, that in the first week the sinking was commenced, a sample assayed 4 marcs, and the day before he wrote, an assay was taken, which gave 15½ marcs per monton, indicating an improvement in depth.

La Rejona.—The expectations formed of the old mine of Rejona have not been realised. The Providencia shaft being communicated to the old workings, these have been partially cleared, and the ground examined at a depth of 250 varas, but scarcely any ore worth returning appears to have been left in any part, and the vein, where exposed to view, is small and poor. The working has been for some time past limited to the clearing of the bottom eastward; and, unless some favourable change soon takes place, the mine will be abandoned. A very promising mine has, however, been opened in the Rejona pertenencia, called San Miguel. A pit, which has been sunk 29 varas, was cleared up, and the vein examined; and being found of a highly favourable character, the shaft was widened, and is now sinking upon the south part of the vein, composed of soft tierras, containing ore, varying from 6 to 12 marcs per monton, but lately disordered by a rough or cavity. The shaft is sunk nearly 50 varas, and at 60 varas it is proposed to drive a cross-cut to examine the north or hard part of the vein, which at 30 varas from surface is stated to be more than 5 varas wide, and producing ore of about 7 marcs per monton. This is considered one of the most promising mines in the district.

San Gabriel.—This mine is situated about 150 varas north of San Miguel, a shaft being sunk near the point where two veins join the principal lode, which runs east and west—one of which veins, at about 25 varas west, produced, it is said, near the surface more than a million of dollars. The object is to clear up the shaft, which is sunk about 20 varas on a vein 2 varas wide, containing silver. The trial appears to be a desirable one, and will cost very little money.

From what is above stated, it will be seen that trials are in progress at six different points in virgin ground, and that two or three of these afford indications of a speedy approach to productiveness. Much work has been done at a very moderate cost, owing, in a great measure, to the mines not requiring the application of any drainage power; and the same economy will be observed in the future prosecution of the operations, which will still be strictly confined to the underground works requisite for an efficient trial of the mines, until the latter become productive. The average cost has been about \$1100 per month, which will not be exceeded during the current year. To meet this expenditure, a call is now made upon the shareholders of 10s. per share, which will carry on the concern to the end of the year, when the directors will be better able to judge as to the future prospects. The directors believe the undertaking to be one deserving the confidence of those engaged in it, and they see no reason to doubt that it will be eventually profitable.

The report of the directors, and statement of accounts, were unanimously received and approved; and the thanks of the meeting presented to the directors, for their attention to the affairs of the company, when the meeting separated.

GENERAL MINING COMPANY FOR IRELAND.

The first general half-yearly meeting of the shareholders of this company, was held on Monday, the 1st inst., at the offices, Lower Sackville-street, Dublin. There was a numerous and highly respectable attendance.

Sir JAMES MURRAY in the chair.

The CHAIRMAN said, that from the position conceded to him by their kind partiality, he was expected to make a few observations. He would not detain them long by a recital of their endeavours to organise and consolidate a new mining company upon a durable and profitable foundation. There had been inducements to the undertaking. They had before them reasonable prospects of fair profits, and also the motive of affording work and wages to many families. They had seen that, whilst the people of the country were scrambling for miserable half acres above ground, there were thousands of acres of metals and minerals neglected below it; that the capital invested in railways was very great, whilst its return was distant and small—and that a more safe and certain investment could be made in mines, now that railways were laid out near them; that very improved modes of raising and smelting ore had been discovered, and that the working people began to show, by their fidelity to temperance, that they were able and willing to work, so as to merit the confidence of their employers. Most certainly they (the company) never would have risked their time or capital had it not been for the happy change resulting from the sobriety of workmen. From several sources of good information, and from the personal knowledge of some of the proprietors, it had appeared evident to them, that there was room enough for at least one more active and industrious mining society, determined to proceed with energy and economy, and resolved not to gamble or gain by shares on the Stock Exchange, but to profit by the legitimate proceeds resulting from an honest national undertaking. When they saw that the precious metals were swept away from the surface of the island, it became the more incumbent upon them to bring to light the metals yet remaining within its hidden recesses. It was recorded by Herodotus that "the Tyrians filled their ships every year with Irish lead and tin;" but he was glad to assure them, that there was still left in their mines good store of metals, which they hoped that energy and perseverance would enable them to bring to light. The tin (as London men called money) was there under the sod, and their exertions would soon raise it out of the bowels of the harmless earth, and put it into active circulation. It did not become their directors to speak of themselves; but he might merely observe, that he thought they were bound to merit the confidence reposed in them by the proprietors. For his part he felt it his duty and interest to acquire as much practical information as possible. Although long conversant with building, materials, work, and wages, also with the chemical properties of ores and metals, yet, in order to become more acquainted with mining management, he had gone to the north, and also to the south and west. There he had obtained valuable practical information connected with the general outlines of the improved systems conducted by able Cornish captains in those provinces. He also thought it due to them to be able to speak from personal inspection of their mines. He spent a fortnight on that mission, and he was very glad to assure them that, after the most minute examination of their mineral and financial operations, their concern was advancing in a safe, prudent, economical and profitable

manner; so much so, that their ores already raised, and their property in implements, machinery, and stores, would now bring at least 1000l. above cost, clear to their credit. The secretary read the requisition convening the meeting, and then the following:—

REPORT.

Employ the people, and enrich yourselves, by developing the great natural resources of the country.

Taking this for their motto, your committee consulted together in October, 1845, and, after mature deliberation, decided upon following the good example of the Mining Company of Ireland—a company whose industry reflects credit upon its directors and indefatigable secretary. Without any intention of competing with other mining interests, but encouraged by several recent mineral discoveries, by the advantages of steam for working machinery, the facilities now afforded for exporting ores, and by the patriotic recommendations set forth by Sir R. Kane, your committee succeeded in perfecting arrangements by which your company was organised and completely registered on the 17th of February last. Owing to the depression which has since prevailed in the money market, your directors deemed it prudent not to make a call upon the shareholders until the pressure should abate. Although the original prospectus authorised a call of 2l. 10s. per share, after complete registration, yet your directors (with a view of accommodating the proprietary) have decided upon making a first call to the amount of 10s. only per share. By judicious management, your directors trust that the amount receivable from this call will suffice to carry on your works during the current year, continuing to afford work and wages to a large number of individuals and their families.

The interval, since the date of complete registration, has been employed by your directors in collecting information, and treating for such mines as were most likely to prove advantageous to the proprietary. They have taken at a royalty rent the lead mines of East and West Shallee, together with the machinery thereon, upon the level of silver mines, in the same vicinity, near Nenagh, subject to a valuation to be speedily determined. By this arrangement the East Shallee mines were set to work upon an improved plan in April last, for the benefit of the proprietary. Although there was much heavy work at the commencement, a shipment of lead ore will be sent to market in a month or six weeks, together with about 20 tons of copper ore, from your mines of Lackamore, lately purchased, and now in full operation, under the management of an experienced mining captain from Cornwall.

Your directors are happy to inform the shareholders, that two other mines, of very favourable indications, are secured at a reasonable royalty rent. The chairman of the board, Sir J. Murray, has just returned from inspecting the above properties, in conjunction with the mining captain, who reports favourably of the progress of the works and the prospects of the mineral deposits, the zeal of the overseers, and the good feeling, honesty, and gratitude of the numerous families engaged in raising and dressing the lead and copper of these mines.

Your directors, in justice to themselves, may be permitted to observe, that it required much of their time and attention to bring the affairs of the company, with the small deposit of only 2s. 6d. per share, to its present promising position; a position which no other company, with such slender means, is recorded to have reached. Your directors beg leave to refer to the balance sheet, as audited and furnished to the proprietary, showing the statement of the company's accounts. In calling now for a sum of 10s. per share, the directors will be enabled to carry out their mining operations upon a more extended and profitable scale.

The following is a brief outline of the mines already at work:—

Shallee Lead Mine.—These royalties embrace 1000 acres of mining ground, within 14 miles of Limerick and five of Killaloe. There are 40 miners raising lead, and earning good wages on tribute, being proportioned to the quantity of ore they raise.

Lackamore Copper Mine is situated about 12 miles from Limerick, and is extensive, having the range of lodes in veins nearly an English mile in length. There are here an equal number of miners raising copper also on tribute; and as soon as your directors are enabled, they will extend the works where they are confidently advised that the result will prove successful. There is abundant and excellent machinery on this mine, consisting of large water-wheels, with crushers and stampers, &c. To conclude, your board confidently hope, that when they have the pleasure of submitting their next half-yearly report, their exertions for the benefit of the company will prove still more satisfactory.

We repeat then—continue to employ the people, and enrich yourselves, by developing the vast resources of the country—unite your endeavours still more to carry out the advantages which are now within your reach, and you must undoubtedly prosper.

The statement of accounts was then read.

Mr. O'DRISCOLL said that, after the very satisfactory report which had just been read, his observations would be almost superfluous. The report, however, was so borne out by the balance sheet, which reflected so much credit on the gentlemen who originally took up the project of that company, and so successfully, and with so much economy, carried it out, that he could not sit down without making some few observations. Undertakings of that description in Ireland were very rare indeed, principally because of their unacquaintance with the mode of carrying on mining operations, so successfully practised in the sister country. Those which had been attempted in Ireland, few as they were, held out to the proprietors—he said it advisedly—prospects of gain unequalled by those of any other undertakings. They in no way partook of the transitory character of railway speculations. Turning to the few mining operations which had been carried on in Ireland, they certainly had something like a prestige of what that company ought to be, and what it certainly must be under the judicious management that had hitherto guided it. The amount of the premiums which were at present attached to the shares of all the English mining companies, was a useful and a startling fact for gentlemen to be aware of. It seemed almost absurd to be told that shares which were issued at 10l. were selling for 300l. in the English markets. That was beyond all doubt; and when he stated it, he did not exceed the average amount of the premiums estimated on well-conducted mining concerns in the sister country. Take their own mining company, and contrast its shares with those of all the other undertakings of that country, and look at the amount of interest paid to their proprietors. Under these circumstances, he thought himself warranted in saying, that a company formed like that, of gentlemen who had so kindly taken up a national project, having such objects as theirs steadily in view, and having at its head a man of character and intelligence like their chairman, who devoted to it so much of his time, and the valuable experience with which very many years close acquaintance with mining operations had invested him, would be attended with success even beyond expectations founded on a close calculation of all the facilities which would be at their command. Though not very competent, he (Mr. O'Driscoll) was not without some little experience in mining matters. He had visited some of their mines, and was astonished to find, that they had such fruitful elements of prosperity within their country. They had certainly paid a happy and a very well deserved compliment to the secretary of the Mining Company of Ireland. He had known for a good many years the secretary whom they had selected, and if his testimony was of any service to him, he should say that, though the Mining Company of Ireland had got a very indefatigable and wise secretary, he thought that these qualifications also belonged to their own. He moved the adoption of the report and statement of accounts.

Mr. JONES seconded the motion, and observed that it was a gratifying thing to receive such a report, and to see it so highly approved of.

The motion was put and carried.

Mr. SMITH moved, that Mr. John Kidd and Mr. William J. O'Driscoll be appointed auditors for the ensuing year.

Mr. PHILIP JONES seconded the motion, which was put and carried.

Dr. BRADY said he did not know whether it was in order for a director to speak on a matter connected with the company at that meeting; but there was one which they were all so much interested in, that he thought they would excuse him from bringing it before them—it was on the part of a gentleman, a proprietor of that company, whose aid had been so useful to them and beneficial to the public. During the panic, and the time when they particularly stood in need of friends willing, and in a position, to assist them, in him they had found one of essential importance to them, and probably without whose aid they would have been unable to advance, certainly not occupied the position they now did. There was no company on record which had advanced without capital as they had done. At present on a capital of 9000l.—2s. 6d. a share having been paid up—they reported their expenditure to have been about 400l. Without friends few of them could get through the world; and in the critical period in which that company commenced existence, they would have been swamped in the general ruin but for one individual, and that was Philip Jones. (Hear, hear.) By his position, as a leading merchant in that city, had they been kept afloat—by him had their character, and their credit, been maintained. He, therefore, moved, that the best thanks of the meeting should be given to Mr. Jones, for his kind and valuable assistance to them when they stood in need of it.

Mr. O'CONNOR seconded the motion—and, in doing so, he would take the liberty of asking some questions in reference to an arrangement of which he had heard, and as to the company's affairs in certain particulars. The CHAIRMAN—Let the votes first be disposed of by Mr. O'CONNOR, after which you shall be heard, and your questions answered.

Mr. JONES returned thanks for the manner in which Dr. Brady had brought him before the meeting, saying that he did not consider himself worthy of the high encomiums which had been passed on him. He could only say, that it was still his wish to benefit the concern as much as he could.

Mr. O'Connor then asked some questions relative to items in the account, and to other topics connected with the company, concerning which he was informed by Mr. Jones and Dr. Brady, who read and explained the several items of the balance sheet; at which Mr. O'Connor and several other shareholders expressed themselves perfectly satisfied; and Mr. O'Connor expressed a favourable opinion as to the prospects of the company.

Mr. QUINCY was then called to the chair.
Mr. O'Connor moved a vote of thanks to Sir James Murray, for his dignified conduct in the chair.—The motion being seconded and carried.
Sir JAMES MURRAY returned thanks. Their kindness made him resolved to promote the interests of the undertaking with redoubled vigour. He was obliged to them all, and he trusted they would all know yet the extent to which that concern would profit its shareholders. Humanity love of country, and employment for the poor, were all very good; but they must be joined in public undertakings, with the means of carrying them out, and the hope of a realization of a fair and reasonable profit.
A vote of thanks was then passed to the directors, after which the meeting separated.

COMPANY OF COPPER MINERS IN ENGLAND. X

A special general meeting of the holders of shares in this company, was held pursuant to advertisement, at the offices of the company, 57½ Old Broad street, on Friday, the 12th inst.

A. L. GOWER, Esq., Governor, in the chair.

The CHAIRMAN, in opening the proceedings, stated, that the meeting had been convened, to receive a report from the board of assistants, who, by the meeting, held on the 8th of April, were deputed to carry out the objects of the general meeting, in raising an additional capital, with the view of paying off certain advances made the company, and also of extending its operations, while it was with pleasure that he stated, of the 20,000 preference shares, which had been proposed to be created, 16,000 had been taken up—the board reserving to themselves the privilege of issuing the additional 4000, should they deem fit to do so. Since the previous meeting, the rolling mill had been put to work, as also another furnace put in blast. He (the chairman) would read to the meeting the resolutions at which the board of assistants had arrived at the meeting held on the 8th April, as also at a subsequent meeting, which were in effect as follows:—That the original shares, into which the capital of the company was divided, should henceforth be considered at 50s. only; and that, on the payment of the difference necessary to make up such sum, by those who may have subscribed a lesser amount, they would be freed from all future liability, and, furthermore, entitled to two preference shares of 25s. each, payable by instalments, or otherwise, on which interest at the rate of 7½ per cent. on the amount paid up would be receivable, antecedent to any dividend being made on the original shares. The chairman further observed, that the proposed deed or instrument, to be executed by the new shareholders, or those holding preference shares, had been drawn up with extreme care by the solicitors of the company, Messrs. Tilson and Squance, and by Messrs. Blunt; and, moreover, had been submitted and approved by counsel. Mr. Squance, who was present, would readily afford any information which might be desired by any proprietor. It may here be stated, that in such cases, when a sum beyond 50s. per share has been paid, the surplus will form part of the deposit or instalments on the preference shares; as in case of 70s. having been paid on an original share, 50s. will represent the share, and the remaining 20s. will be apportioned to the two shares to which the holder is entitled, thus making the further payment of 30s. equal to the two additional shares of 25s. each.

The resolutions submitted by the Governor, having been read, confirmatory of the course taken by the board of assistants, were unanimously confirmed.
Mr. SQUANCE proceeded to direct the attention of the meeting to the several clauses in the deed, and to afford such explanation as was rendered necessary by the inquiries on the part of several proprietors, which, indeed, is conveyed in the explanation of the scheme above inserted.

Mr. CARTER begged to direct the attention of the governor and board of assistants to the desirableness, at their future meetings, of accounts being rendered, for, however high was the opinion entertained by himself and others, of the integrity and high standing of the gentlemen in whom the proprietors reposed their fullest confidence, yet he considered, by more openness being observed, the good opinion of the public would be secured, and a kindly feeling engendered. He did not wish to convey the slightest distrust; but, in making the observations he felt called upon to submit to the chairman, he felt he was advancing the interests of the company.

The GOVERNOR, in reply, observed, that there were considerable difficulties in the way of complying with the request of the hon. proprietor; the subject had been frequently canvassed by the court, but the obstacle which presented itself was, in fact, a trading company; and that to communicate the private matters to a public meeting, would be to inflict injury on the shareholders generally, as it would afford their rivals in trade an opportunity of knowing the nature of their business. He was happy to say, that the hon. proprietor was perfectly correct in his assumption, that the dividend of 5 per cent., which had been declared, was out of profits. He might further observe, without however pledging the court to any particular course, that the idea had been entertained of appointing two auditors from the body of proprietors, who, by inspecting and examining the accounts, would be an additional voucher for their accuracy. He begged to state, that it was only the question as effected the interests of the proprietors which had hitherto determined them on the course pursued.—Some general conversation having taken place, a vote of thanks to, and confidence in, the governor and court of assistants, was carried unanimously, and the meeting separated.

SILVER VALLEY MINING COMPANY. X

The first annual general meeting of the shareholders was held, pursuant to circular, at the offices, 44, Finsbury-square, on Friday, the 12th inst.

RICHARD HODGSON, Esq., in the chair.

The CHAIRMAN, in opening the proceedings of the day, adverted to the reports, subsequently read from P. N. JOHNSON, Esq., and Capt. Prince; and, at the same time, observing on the additional ground granted by the Duchy of Cornwall, of the land known as Wheal Sisters, at 1-15th dues, and thus forming, with the Wheal Prosper and Wheal Brothers Mines, a set of some extent, and, judging from the past, of high promise.—The accounts submitted will be found in the accompanying abstract—while it was understood, that the machinery now being erected, and the mine "in course," that the future monthly expenditure might be estimated at 4000l., which would, doubtless, involve the necessity of a further call, although he (the chairman) entertained the sanguine hope that, at their next meeting, he should have to congratulate the proprietors on returns commensurate with the outlay of capital, and the spirit displayed in its application. He regretted the absence of Mr. P. N. JOHNSON, from whom, however, a communication had been received, which would be read. He might observe, that about 1½ tons of silver ore had been raised, but he was not in a position to state its actual value. Some specimens of ore, which had been pronounced by Mr. JOHNSON as worth from 4s. to 4s. 6d. per ounce, or after the rate of upwards of 5000l. per ton, were submitted to the meeting; but he (the chairman) was not in a position to say, whether the ores raised were worth 1000l. or 10000l. a ton. This information, however, would, doubtless, be rendered by Mr. JOHNSON, and, upon acquiring which, the adventurers would be put in possession thereof.

The following is an abstract of the accounts furnished, which, with the reports and some observations from one or two of the proprietors, in the shape of conversation rather than discussion, may be said to comprise the business of the day; whilst we would respectfully suggest in future, that the meetings should be more business-like, and not partake of so discursive a character, as it is not exactly the thing, to have two or three knots of parties to whom one or other of the directors are directing their attention; while the chairman was only recalled to his seat on a vote of thanks being passed to him, which, we were happy to say, done in the most kind and cordial manner. We say this in good feeling; but do, with others, complain, that time should be occupied, when the real business of the meeting may be said to have been brought to a close:—

Dr.—First instalment on 2560 shares, at 2s.	£5120	0	0
Second ditto, on 357 shares	357	0	0
Interest	109	4	3
Balance	1968	6	3—7554 10 8
Cr.—Amount paid adventurers of Wheal Prosper	£128	0	0
Expenses (R. Sergeant and others) to Jan. 31, 1845 ..	52	15	0
Cost for 12 months, ending March 1846	6958	6	8
Directors' attendance	200	0	0
London management	200	0	0
Petty cash	15	9	0—7554 10 8

The following are the reports referred to by the chairman:—

REPORT.

Heston, Baccarat, June 9.—As I shall not be present at the first annual meeting of shareholders, I beg to send a few general observations on the operations of the mine, and the objects I have in view in carrying them out, leaving your agent (Captain Prince) to report in detail. Since the present company have commenced, the Wheal Prosper tin lode, and Wheal Brothers silver lode, have been put in a proper course of working, by the erection of an engine, placing efficient pitwork, and securing the ground. On the tin lode, the 20 and 30 fms. levels have been driven, and the shaft now sinking, and, from what is developed, proves it to be amazing in richness in depth. The tin exists in chlorite, and is strongly mineralised with copper and iron pyrites, and about 5 tons of tin is at surface, in course of dressing. The silver (or Wheal Brothers) lode has produced about 1½ tons of silver ore, which is secured, but not yet prepared for sale. It is so short a time since the erection of the engine, that but little ground is opened; and (as in all mining operations) time must be allowed for this purpose. I calculate that to open the ground in an efficient manner, and keep on the necessary pitwork, it will require six or eight months, at a cost of

about 4000l. per month, during which time some returns will, of course, be made both in tin and silver ore, but to what extent, particularly with the latter, it is impossible to say. The dressing-floors, burning-house for the tin, and 6 stamps, are erected, and in operation; we are also building another water-wheel, which the locality will allow of working, by pooling the water. I am, by frequent visits and consultations with the agents, endeavouring to put the mine into an efficient course of operation, with the strictest regard to economy, consistent with spirited prosecution.—P. N. JOHNSON.

June 9.—In handing you my report of the above mines for the general meeting of the shareholders, I will proceed, in the first place, to give you a detailed account of the buildings and erections which have been completed, and the work done, both at the surface and underground, preparatory to opening on the lodes. We have built an engine and boiler houses, bob pits, smithy, pitmen and sumpmen's houses, coal yard, &c., and have partly rebuilt and repaired carpenters' and sawyers' houses, offices, materials' and powder houses, agent's residence, assay office, &c., &c., and have erected a combined cylinder steam-pumping engine, equal to a single engine of 52 in. cylinder, with capstans and shears, balance bobs and main rods, to which are attached 80 fms. of horizontal rods, connected to the main rods in the south, or engine-shaft, of silver mine, where there are also a capstan and shears, bobs, horse wheel, &c. Several thousand tons of stuff have been removed, and floors made to prepare the tin ore for stamping; we have built a stamping mill of six heads, with another in progress and nearly completed, of the same size, with the necessary dressing floors, apparatus, houses, &c., near which a complete calciner is built, with arsenic receivers, now in active operation. The stamps are built conveniently for the water pumped out of the mines to run over the wheels, and to guard against scarcity; several large tanks have been made, to catch the superfluous water during heavy showers of rain, which are prevalent in this part of the country. Other things, of minor importance, might be named; but I assure you, that nothing has been done which has not been found indispensable to working the mines, even on a moderate scale. In clearing the engine-shaft on the north, or tin mine, we found the water exceedingly powerful—so much so, that we were compelled to drop four large lifts of pumps to drain it. This unusual quantity of water found its way through the laminated structure and hollows in the lode, which, being continuous, the engine has, no doubt, drained it for miles in extent. This is evident from the fact, that the water is decreased to one-third of its former quantity. The shaft not having been found large enough for fixing proper pitwork to sink the mine deeper, it was cut down to a sufficient size, divided from the surface to the bottom, and 47 fms. of forcing and drawing lifts of pipes fixed when the levels were cleared and measured. [The figures here introduced will appear in our next.] This lode on this mine varies from 6 in. to 5 ft. wide; it is composed of compact minute granulated quartz, intermixed with chlorite, associated with oxide of tin. In several places, and immediately under the hard part of the lode just described, traverses a vein composed of decomposing chlorite, with stones of blende, yellow copper, and lead ores, which produced by assay as follows:—37.5 per cent. of zinc, 21 per cent. of copper, 15½ per cent. of lead, and 38 ozs. of silver in the ton of ore. This vein acts, no doubt, as a feeder to the tinney part of the lode, which is improving in depth, and will, I think, continue to do so whilst the former is found to accompany it. Tungstate of iron, copper pyrites, and much munda, are intermixed with the lode in the upper levels; but in the bottom of the mine it is not productive of these minerals at present.

The lode in the 10 fm. level is hard, and spotted with tin. A few fathoms of ground was staked during the last working, and more of the lode in this level will be taken away at a high tribute. The 20 fm. level has not been extended east of the cross-cut; but the western level has been driven several fms. through an ore lode, one part of which will, we think, be worked away at about 6s. in the 1½; although the lode at the extreme end continues large, it is at present poor. At the 30 the lode is more strongly mineralised, and contains more tin than it does in the level above; the western end is producing good saving work, and the lode continues promising; the lode in the eastern end is not without tin, but it is split into two parts, and, consequently, disordered. A winze is in course of sinking in this level, about 12 fms. east of the cross-cut, in which the lode is 2 ft. wide, with tin disseminated throughout it. The lode in the engine-shaft is about 2 ft. wide, containing more chlorite, and less quartz, than it does in either of the upper levels, and the tin which it contains is somewhat of a better quality.

The rock here is a light blue slate, traversed by numerous minute metalliferous veins, which are good indications; and, judging by the structure of the lodes, its composition, and general appearance, it is highly probable that, although the tin has hitherto been found but thinly disseminated through those parts which have been explored, it will, nevertheless, be found concentrated and continuous in depth. There are, however, some indications of copper presenting themselves in the bottom of the shaft; but these might perhaps be attributed to a copper lode which we have lately discovered a few fathoms north of the engine-shaft—it is about 1 ft. wide, consisting of gossan and quartz, containing spots of copper; should its underlie, which is southerly, continue regular, it will be found to have formed a junction with the tin lode at, or a little below, the 40 fm. level; we look at this as a favourable circumstance. We calculated on reaching the 40, and cutting through the lode ore this; but, in opening the ground at the bottom of the shaft, preparatory to sinking, a part of the well was cut into, which let down all the water in the mine—and hence, instead of sinking for 177. per fms., which would have been a fair price, we were compelled to give 300l.—making a difference not only of 182. per fms., but about 8 ft. less per month. The shaft, however, will have been sunk through the lode, leaving it on the north, before we reach the 40—at which level a greater part of the water can be taken up, and the shaft be sunk with a greater expedition, and at a less cost; 238 fms. north from the engine-shaft, is a large tin lode, underlying south, on which a level was extended about 100 years ago, and, subsequently, cleared by us 91 fms., and further driven 18 fms.—it is composed principally of decomposed felspar and felspar clay, containing spots of crystals of pure oxide of tin; in one part of the level, the lode has been taken away from the adit to within a few feet of the surface, and I do not but that a continuation of the shoot would be found going down; but the water is too powerful to sink without the aid of machinery. In clearing the silver mine, we found the shaft and every level crashed and filled as we anticipated; the engine-shaft, however, has been cleared up, secured, and divided, with 40 fms. lifts of pumps fixed, and the levels cleared and secured—the lode averages about 14 in. wide, and is composed of felspar, clay, and quartz, accompanied by munda, with spots of copper, lead, and silver. In the more productive ground, a vein of carbonate of iron generally traverses either in the foot or hanging wall of the lode. Should the iron be distinctly crystalline, native, sulphuretted, or oxide of silver, is invariably found with it; but should the crystals be indistinct, poverty is the result. Silver, however, is often found, not in conjunction with iron; but when this case, argentiferous galena precedes it. We have had a small shoot of ore in the back of the 30 fm. level, and are now levelling in the other levels for a continuation of it, and shall most probably meet with success. Most of the ground has been taken away near the engine-shaft, from a few feet from the surface to the 30 fm. level, and for about 20 fms. in length, which no doubt produced large quantities of silver; but the unwrought ground in the different levels, is, on the whole, very poor. We have paid, and will continue to pay, strict attention to the indications, but more especially to cross-courses—they are ever so small—as without them this lode, in my opinion, is not worth working. I do not mean to say there are no cross-courses without silver; but I have not yet seen one, unless indeed it consisted almost wholly of quartz. I am also of opinion, that this lode does not contain sufficient silver to pay for exploring it at any great depth, where the indications of silver disappear, and those of copper make their appearance; but lest we should be deceived in this respect, we propose driving the 40 fm. level 8 or 4 fms. east—the extreme end being only 2 fms. from (short of having reached) the shoot of ore discovered in the level above; be the result as it may, I would recommend you to extend either the 20 or 10 fm. levels east and west, where the ground is favourable for driving. Should shoots of ore be discovered, their value would dictate whether it would be prudent to extend the deeper levels towards them or not.

We have dilled the cross-course at Wheal Mexico, and find it running through our sett, about 11 fms. east of Malachy's shaft. We propose clearing up this shaft, and driving towards the cross-course. At Wheal Sisters there are two cross-courses, one of which has been discovered subsequent to the abandonment of the operations in the shallow adit, which we are now clearing. This circumstance induced several parties to apply to the Duchy for a grant of the sett, which we now have, and which I consider to be a valuable piece of ground. It can be developed at a small expense, and I do not not, with beneficial results. At the 30 fm. level (Silver Valley) we are driving a cross-cut, south towards the copper lode, wrought on at a shallow depth, and to a great extent in the sett adjoining, under the superintendence of Capt. Pertherick; we calculate having about 6 ft. more to drive to intersect it. With respect to the operations to be carried on at the tin mine, we propose to continue to sink the engine-shaft, to reach a 40 fm. level as soon as possible; and in the meantime to drive the 80 east and west, to open as much tin ground as we possibly can, as also the 20 west, for the same purpose; to sink the winze in the 30 east, not only to prove the lode in this direction, but to ventilate the 40, when it shall have been brought in a line with it, to prevent any loss of time in opening ground; to slope (either on tailwork or tribute) the backs of the 20, 30, and 40 fms. levels. These levels will, I am convinced, produce a great deal of tin, but you will have perceived, from the observations which I have already made, that large quantities of stuff must be raised, brought to surface, and reduced either by steam or water-power, in order to separate the large proportion of earthy matter from that mineral. I regret that, although we have sufficient water-power about one-half the year to answer the purpose, yet, during the summer months, little or nothing can be done in stamping. The prospects in this mine are good, and hold out great chance of success, yet we should not be justified in recommending you to erect more efficient machinery, before the points described above are tried, which will take about six months to accomplish, at a monthly cost of about 4000l.; whilst in small quantity, silver and tin will be regularly returned, to meet a part of that cost. We have now in course

of calcining about six tons of tin, and have a small quantity of silver, which shall be prepared for the market with every possible despatch.—JOHN PATSON.

In the course of the proceedings, a question was put by Mr. JAMES, as to the constitution of the company, and whether it was the same as in the Callington, and other mines?—In reply to which, we understood the CHAIRMAN to state, that the rules were the same in effect, and that they might be inspected by any shareholder, or a copy should be furnished; but it was not considered worth while to incur the cost of printing, which would be 100l., or thereabouts.—We beg to differ with the chairman, for after the scenes of late, in which he has been somewhat conspicuous, we think the rules or regulations of the company cannot be too well known. It is only right to state, that the chairman, on the part of the directors, expressed their utmost readiness to print the rules, should such be the wish of the proprietors. No expression of a desire on their part being manifested, the matter dropped. The report and accounts having been adopted, and ordered to be entered on the minutes, and a vote of thanks passed to the chairman, the meeting adjourned.

We were glad to find that the proceedings commenced at the appointed hour, and which course will, we understand, be strictly adhered to in the case of all other companies, whose affairs are conducted at the office.

EAST TAMAR CONSOLIDATED MINING COMPANY.—A special general meeting of the shareholders was held at the offices of the company, Old Broad-street, on Thursday, the 4th inst., pursuant to notice: present F. J. VANZELLE, Esq. (chairman), and shareholders, in person and by proxy, representing 8436 shares. A circular, convening the meeting, was read, which contained copies of the resolutions intended to be proposed, and stating, "That the grants to the company (three in number) from the Earl of Mount Edgumbe, comprising a distance of 1200 to 1300 fms., and the present operations of the company being confined to the north and middle portions thereof, and the southern portion holding out great inducement for extending the operations thereto, and for which a considerable capital would be required." The following resolutions were proposed and unanimously adopted:—That instead of such capital being raised by calls upon the shares in the present company, or by applying the profits of the company to that purpose, a new company be formed for working that portion of the company's setts, which is bounded on the north by a road leading from Beralston to Ware Quay and Holes Holl, and extending to the river Tamar, either alone, or in conjunction with such other ground southward as the directors may be able, and think advisable, to annex to it.—That the new company be called "the South Tamar United Mining Company," and be divided into the same number of shares, and be subject to the same rules and regulations as the present company.—That the shareholders in the present company shall be entitled to a number in the said South Tamar United Mining Company as they hold in the East Tamar Consolidated Mining Company, upon payment by them respectively of a deposit of 5s. per share, on or before the 4th day of July next, and, in default of payment thereof, shall be deemed to have declined to accept such shares, and shall thenceforth cease to have any interest in the said South Tamar United Mining Company, or in that portion of the present holding of the East Tamar Consolidated Mining Company, which is to be ceded to the said South Tamar United Mining Company.—That the directors of the East Tamar Consolidated Mining Company be fully empowered to make such surrender of the existing grant, and to take such steps for obtaining such new or other grants, as they may think necessary for carrying the foregoing resolutions into effect.

EAST WHEAL SETON MINING COMPANY.—At a meeting of adventurers, held June 2, at Mr. Phillips's, Church Town, Illogan, it was unanimously resolved,—That the accounts examined be allowed, and that a call of 1l. per share be made, and collected immediately, for the purpose of paying the costs for the next two months, when there will be another meeting of the shareholders.—That if the defaulters do not pay their arrears of calls, within a fortnight from this date, the pursuer is requested to proceed against them, to recover the amount.—That an engine of 20-inch cylinder be immediately erected on the western shaft of the mine. The accounts were as follows:—To calls 1661. 17s. 6d.; ores sold, and carriage of ores, 177. 7s. 7d.—together, 844. 5s. 1d. Disbursements—balance last account, 99l. 6s. 10d.; costs, 6 months, November to April inclusive, 228l. 6s. 4d.; bills charged June 2, 73l. 19s. 6d.; total, 401l. 12s. 8d.; shewing a balance due the pursuer, of 57l. 17s. 7d.

GREAT WHEAL WILLIAMS MINING COMPANY.—At a two-monthly meeting of adventurers, held at the Prince George Hotel, Stonehouse, on the 1st inst.—P. VIGORS, Esq., in the chair—a statement of accounts was presented, shewing balance in hand, last account, 418. 0s. 7d.; cash received since, 41l.; bills charged, and not paid, 39l. 0s. 9d.; amount of calls due on first call, 35l.; ditto second, 80l. 15s.—together, 236l. 16s. 4d. By labour cost and merchants' bills, to end of April, 113l. 12s. 2d.; amount due on first call, 35l.; ditto second, 80l.; which, with balance of cash in hand, 77. 9s. 2d., makes the 236l. 16s. 4d.—It was then resolved,—That Mr. Proust's resignation of ten shares be accepted, and the same be sold by the pursuer for the benefit of the company, at the most convenient opportunity.—That all calls be paid to the pursuer, instead of to the Naval Bank, as heretofore.—That the committee be re-elected, and Capt. Key be elected in the vacancy of Mr. Willan.—That a call of 5s. per share be made, to be paid immediately to the pursuer.—The following report from Capt. B. Cooke was then read:—"This extensive sett is situated in the parishes of South Sydenham and Lamerton, in the county of Devon; it is bounded on the north by Wheal Grace and Wheal Carpenter; on the east and south-east by Combe Vale; on the south and south-west by Wheal Fortescue, Lamerton, and Wheal Maria; and on the west by the river Tamar. The celebrated Great Devon Consols Mines being about three quarters of a mile south-east of the southern extremity of the sett, which is two miles from north to south, and averaging three quarters of a mile in breadth, and is so situated as to have the parallel lodes of the mines above-mentioned; and if they realise according to the expectations of their respective adventurers, we may expect the same. Since the commencement of operations, by the present company, four very kindly lodes have been discovered, three east and west lodes and one north and south, on one of which, near Sydenham village, a shaft has been sunk 10 fms., and an adit driven on its course therefrom. This lode has been examined by men competent to give an opinion, and pronounced by them to be well worthy a further trial; and, if carried on in a proper manner, would, no doubt, ultimately prove a profitable investment. In the centre of the sett two lodes have been discovered, one east and west, and the other a north and south lode; on both of these lodes shafts have been sunk about 10 fms., and an adit has been driven 68 fms. on the lead lode, the manual labour of which has cost about 100l.; there is now about that distance further to drive, to unwater it at the depth of 20 fms., and intersect and unwater the copper lode at the same depth (which will cost about 1500l., exclusive of air pipes, timber, railroad, &c.) The other east and west lode discovered is a tin lode, which runs from Lamerton Wheal Maria into the south-western part of this sett—this lode has been driven on to some extent by that company, and proved by them to be of great promise. I would not recommend doing much on this lode at present, as the Lamerton Company working thereon will prove it to some extent for us; but the time is now arrived when we can commence operations in the shafts in Cross Parks, and also near Sydenham. We have driven in the adit, since the last two-monthly meeting, about 21 or 22 fms.; the lode is now about 1½ ft. wide, composed of sugary spar, flookan, munda, and spotted with lead."

WHEAL CONCORD MINING COMPANY.—The management of this mine having been vested in a committee of management in London, a meeting was held at the office of the secretary (James Crofts, Esq.), 4, King-street, Chancery, on Friday, the 12th inst.—P. DAVEY, Esq., in the chair—when the pursuer's accounts were examined and audited, and a call made of 30s. per share, payable into the London and Westminster Bank, Southwark, immediately.—Thanks were voted to the chairman; and the gentlemen present appeared highly pleased with the prospects of this valuable concern.

WHEAL LOUISA MINING COMPANY.—At a meeting of adventurers, held at the New Inn, Torpoint, on the 4th inst.—Lieut. W. H. SMITH in the chair—it was resolved:—That the accounts for March and April last be allowed.—That, in order to meet the expenses incurred for the erection of the water-wheel, pumps, &c., amounting, with the bills for timber and other materials, to about 2500l., and to provide for the further prosecution of the mine, a call of 17s. 6d. per share be made, to be paid forthwith to Mr. R. H. DAWN, of Torpoint, who is hereby authorised, as secretary to the company, to receive the same.—That the share register book be kept at Torpoint, and that all transfers be sent to the secretary, who will be entitled to receive 1s. with each transfer, if for less than five shares; for five shares and upwards, 2s. 6d.—That the secretary be authorised to get copies of these resolutions, with the report of the inspecting captain, printed and forwarded to each shareholder.—The following report from Capt. James Chynoweth was read to the meeting:—"I beg to lay before you a report of work done since your last meeting, on the 8th April. From that date to the 80th, the men were employed in making additional leads from the river, in building a wall against the lead by the side of the road, and in getting the engine in readiness to work; on the 30th, the wheel was set to work in good order; on the 2d of May, the shaft was set to sink by six men, at 5l. per fm., for 5 fms. or the month, since which they have sunk 4 fms.—making 9 fms. from the surface. The ground holds its former improved character—a very pretty light blue killas, congenial for lead. From the appearance of the lode in the adit, the strata of ground through which we are sinking, and the neighbourhood in which the sett is situated, I think myself justified in saying, that the mine holds out the most encouraging expectations, and that we shall see something good at the 20 fm. level. There are seven lodes passing through the sett, of which two are to the west, and four to the east of the main lode; but I think it advisable not to do anything on these lodes before the next meeting, which is intended to be on the mine. The working costs will be about 35l. per month for the next three months, and the merchants' bills will be very little until we cut the lode, which I hope will be done at the 20 fm. level, by the end of September."

WHEAL ROSE CONSOLS MINING COMPANY.—At a meeting of adventurers, duly convened and assembled on the mine, on the 23rd May last, it was re-

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, (including railway, Tuesday, 10th Aug.)	
Bank Stock, 7 per Cent., 2004	Belgian Bonds, 4 per Cent., 97 1/2
3 per Cent. Reduced Ann., 95 1/2	Dutch, 2 1/2 per Cent., 59 1/2
3 per Cent. Consols Ann., 96 1/2	Brazilian, 5 per Cent., 89 1/2
Long Annuities, 101 1/2	Medan, 5 per Cent., 94 1/2
India Stock, 104 per Cent., 95 1/2	Spanish, 5 per Cent., 94 1/2
3 per Cent. Consols for Aug., 95 1/2	Portuguese, 4 per Cent., 47 1/2
Eschequer Bills, 1000, 16 pm.	Russian, 5 per Cent., 109 1/2

RAILWAYS.—The determination shown by so many companies to persevere in their applications, is causing much uneasiness among capitalists; and the want of confidence, a distinguished feature of the present money market, may be attributed to it. In the manufacturing districts, where railway engagements are heaviest, the anxiety is proportionally increased, from the fear, that a large portion of capital will be drawn from the usual legitimate channels, for the purpose of carrying out railway undertakings at the expense of the annual trades. The result of the deliberations of the committee on the London and York Company, united with the Direct Northern, having been, the obtaining their bill, quite a sensation was caused on 'Change, and the fear of calls immediately caused a fall in the scrip. Eastern Counties shares also felt the effects, and receded a little.

The report of the committee of the Privy Council, respecting the break of gauge, appears to have given, as stated by a contemporary, "the most unqualified satisfaction to the merchants, manufacturers, and tradesmen, of the town and neighbourhood of Birmingham;" and well it may have done so, inasmuch as they have been on the tenter hooks of suspense, lest the Birmingham and Gloucester Line should have been recommended to be altered to the broad gauge, and thus have brought the break of gauge, with all its confusions, from Gloucester to their own doors. But the recommendation of the committee, although it may please the good folks of Birmingham, will, if carried into effect, increase to a serious extent the evil that it was meant to cure; and we refer our readers to an article in another column, which fully explains the present position of the question. At Gloucester the feeling is very different; and knowing the evils of the break of gauge, all is excitement to obtain signatures to petition for uniformity. The London and York Bill having passed the committee, has raised the utmost joy in the latter city.

MEETINGS.—The following meetings under sessional orders have taken place during the week:—Cork, Macroom, and Killybegs: agreed to dissolve; the deposits amounted to 15,427l., and the expenses already paid amounted to 8538l., and there were liabilities to the extent of 7000l. London and Manchester: a resolution to wind up was carried by 3744 shares to 665. South Devon: upwards of 400,000l. of the 1,100,000l. capital was represented, and they decided to proceed with the undertaking. Waterford and Kilkenny: agreed to take on lease the Galway and Kilkenny Line, by which they would only have to construct half their line: as this line had iron rails, it was necessary to have iron rails also on the Waterford Line, and it was agreed to give Mr. Prosser 500 paid up shares, worth 10,000l., and 5000l. in money, as a compromise for not using the wooden rails, as agreed upon with him. Great Kent Atmospheric: a meeting was called by a person named Lechmere, with the intention of requesting the directors to call the necessary meeting, under sessional orders, when, however, all became confusion, and the chairman (Col. Murray) left the chair without anything being done. Mr. Lechmere having assumed to himself powers which belong to the chair only. Leicester and Bedford: unanimous for proceeding with the bill. Portbury Pier and Railway: unanimous for proceeding. Blackburn, Darwent, and Bolton: unanimous for proceeding. Blackburn, Clitheroe, and North Western: decided to proceed by a majority of 11,983 votes to 5 dissentients. Chelmsford and Bury: resolved to wind up, with 26,325l. to divide; the expenses having been 27,391l. Lynn and Ely: affirmation carried by 3225 to 715. Staffordshire and Shropshire Junction: a resolution was carried, appointing a committee of inquiry to investigate the accounts. A special meeting of the Sheffield and Manchester Railway was held at Manchester on Wednesday, when bills for constructing the Whaleybridge, Dakenfield, Worsborough, and Glossop branches, also approving of the proposed amalgamation of the company with the Huddersfield and Manchester, Sheffield and Lincolnshire, and Great Grimsby Lines, were unanimously approved of. The directors had received 4007 proxies affirming, and only 142 against, these measures.

Bills which have passed the Lords' Committees.—The London and York, the chairman stating, that the committee were unanimously in its favour; York and North Midland (widening and enlargement); Sheffield and Lincolnshire Extension; Ely and Huntingdon (Bedford Extension); Glasgow, Dumfries, and Carlisle; North British (branches); Ipswich and Bury St. Edmunds; Harwich and Eastern Counties Junction Railway and Pier; Buckinghamshire (Oxford and Bletchley).

Bills which have passed the Lords' Standing Orders Committee.—The Boston, Stamford, and Birmingham; the Manchester and Birmingham; the Great Grimsby and Sheffield Junction (Humber Ferries); the Ambergate, Nottingham, and Boston Eastern Junction; the Alford Valley; the York and North Midland (Leeds Extension); the Midland (Erewash Valley Branches); the Midland (Claycross to Newark); the Scottish Grand Junction; the North Western; the Glasgow, Barhead, and Neilston (Paisley Branches); the Tame (Thorncliffe, Househill, and Hurlet branches); the Glasgow, Paisley, and Greenock (harbour branches); the Birkenhead, Lancashire, and Cheshire Junction; the Edinburgh and Northern (Strathearn deviation); and the Lancashire and North Yorkshire; the Bristol and South Wales Junction Railway and Ferry; the East of Fife Railway; the Caledonian and Dumbartonshire Junction Railway; the Wilsontown, Morningside, and Coltness Railway (Bathgate branch); the Wilsontown, Morningside, and Coltness Railway (improvement and branches); the Slamannan Railway (Bathgate and Jawraig branches); the East and West Yorkshire Junction Railway; the Edinburgh and Northern Railway (Newport Railway and St. Andrew's branch); Northern Railway (Dunfermline branch); the Edinburgh and Northern Railway (Pettycur branch and Dysart deviation).

Bills passed the Commons' Committees.—Midland (Birmingham Extension); London and Birmingham (Leamington Extension, and Coventry and Rugby station enlargement); North Wales (deviation); London and Blackwall (preamble proved). In the proceedings on the Cornwall bill, the Admiralty have consented to a bridge of four arches over the Tamar, provided the company will provide a steam-tug at their own expense to tow the vessels through. Enfield and Edmonton, and West London Extension, ordered to be reported; London and York do., branch to St. Alban's, Luton, and Dunstable; Eastern Counties station enlargement (preamble proved); St. Alban's, Hatfield, and Hereford (preamble proved); Northampton and Weedon (preamble proved).

Bill read a third time, and passed.—Wakefield, Pontefract, and Goole. South Yorkshire Coal and Railway Company: on the motion for the recommitment of this bill, it was lost by a majority of 10, in a House of 92 members; 41 for, 51 against.

MINERS' LAMBDON'S SALES.—TUESDAY. Caledonian (15l. 6d.), Vale of Neath (21l. 6d.), London and Croydon (chairs) (9l. 17s.), Dublin and Galway (4l. 2s.), Buckinghamshire (2l. 2s.), 11s.; Shrewsbury and Birmingham (10l. 2s.), 11s.; London and Manchester—Rastick's (5l. 5s.), 3s. 7d.; Leicester, Tamworth, Coventry, Birmingham, and Trent Valley (2l. 10s.), 1l. 6s.; North Kent (2l. 10s.), 1l. 5s.; Gillingham Extension (2l. 10s.), 1l. 6s. 6d.; Goole and Doncaster (2l. 2s.), 1l. 5s. 6d.; Telford, Reading, and Basingstoke (5l. 5s.), 1l. 15s.; Northampton, Bedford, and Cambridge (2l. 2s.), 1l. 5s.

FRIDAY.—Northampton, Bury, and Cheltenham (2l. 1l. 10s.), Buckinghamshire (2l. 2s.), 1l. 16s. 6d.; Welsh Midland (2l. 10s.), 1l. 3s.; Leeds and Thirsk (10l.), 4l. 10s.; London and York (2l. 10s.), 2l.; London and York Extension (2l. 10s.), 1l. 17s. 6d.; York and Lancaster (2l. 12s. 6d.), 1l. 12s. 6d.; Northampton, Bedford, and Cambridge (2l. 2s.), 1l. 5s. 6d.; Furness and Windermere (2l. 2s.), 1l. 1s.; Vale of Neath (2l. 1l. 4s. 6d.); South Midland (2l. 2s.), 1l. 5s.; Ipswich, Norwich, and Yarmouth (2l. 1l. 5s. 6d.); Churnet and Blyth (2l. 10s.), 1l. 6d.; Boston, Newark, and Sheffield (1l. 12s. 6d.), 1l. 3s.; London and Manchester—Rastick's (5l. 5s.), 3l. 7d.

RULE, THURSDAY.—The share trade is essentially one of contrasts, of which the past week has furnished further illustration. Shares of all kinds are now ranging at much lower rates—sellers considerably preponderating. This is chiefly to be ascribed to the uncertainty hanging over political events; but it, nevertheless, shows the extreme sensitiveness of the share market to external influences. North Staffordshire and West Riding Unions are the only new issues that maintain a respectable premium, and both have suffered a heavy per centage of decline since we last wrote. The London and York has proved its preamble, and fallen 6s. per share, on 21. 10s. paid.

COAL MARKET, LONDON.

PRICE OF COALS FOR TEN AT THE CLOSE OF THE MARKET.
MONDAY.—Chester Main 12—Davison's West Hartley 15—Hastings Hartley 14 6—Hollywell Main 14 9—Original Tanfield 12 6—Ode's Redhough 13—Tanfield Moor 15—Townley 13 6—Eden Main 14—Leasingthorne 12 6—Sidney's Hartley 14 6—Wall's End Hilda 13 6—Killingworth 12 6—Bradley's Hilda 14 6 to 14 9—East Hilda 13 3—Hutton 15—Lambton 14 9—Stewart's 15—Kellie 14 6—Gordon 13 3—South Durham 13 6—Ships at market, 4d.; sold, 3d.; unsold, 1d.

WEDNESDAY.—Chester Main 13—Davison's West Hartley 14 6—Hastings Hartley 14 6—Tanfield Moor 15—West Wylam 14—Eden Main 14—Cowpen Hartley 14 6—Sidney's Hartley 14 6—Wall's End Hilda 13 6—Bradley's Hilda 14 6 to 14 9—East Hilda 13 3—Hutton 15—Lambton 14 9—Stewart's 15—Kellie 14 6—Gordon 13 3—South Durham 13 6—Ships at market 26; sold, 23; unsold, 3.

FRIDAY.—Carr's Hartley 14 6—Chester Main 13—Davison's West Hartley 14 6—Hastings Hartley 14 6—Nelson's West Hartley 14 3—Original Tanfield Moor 12 6—Taylor's West Hartley 13 9—Tanfield Moor 15—Wylam Moor 14—Wall's End Hilda 13 6—Eden Main 14 3—Hutton 15 3—Lambton 14 9—Shotton 14 6—Stewart's 15 3—Gordon 13—Sidney's Hartley 14 6—Ships at market, 4d.

RAILWAY TRAFFIC.—From our official returns, it appears that the amount of traffic for the last week, on nearly 1800 miles of railway, was 152,531l., thus amounting for—88,412l. for the conveyance of passengers only, 35,304l. for the carriage of goods, and a remainder of 28,815l. for passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of 28,461l.—*Railway Chronicle* of this day.

RAILWAY SHARE LIST.

RAILWAYS.	Value	Change	Value	Change
Aberdeen	210	1	211	1
Amber, Nottingham, Boston, and Erewash Junction	100	1	101	1
Ambergate, Coleraine, and Portrush—25s. shares	100	1	101	1
Birmingham and Gloucester—100s. shares	100	1	101	1
Birmingham and Oxford Junction—20s. shares	100	1	101	1
Bristol and Exeter—100s. shares	100	1	101	1
Bristol and Gloucester—50s. per share	100	1	101	1
Caledonian—50s. per share	100	1	101	1
Cardiff and Llanelli—25s. shares	100	1	101	1
Chelmsford and Bury	100	1	101	1
Chester and Holyhead—50s. shares	100	1	101	1
Cork and Killybegs—50s. shares	100	1	101	1
Cork and Waterford—25s. shares	100	1	101	1
Cornwall—50s. shares	100	1	101	1
Derby, Uttoxeter, and Stafford	100	1	101	1
Direct Northern—50s. shares	100	1	101	1
Direct Manchester (Remington's)—20s. shares	100	1	101	1
Ditto Rastick's Junction—50s. shares	100	1	101	1
Dublin and Belfast	100	1	101	1
Dublin, Belfast, and Coleraine—50s. shares	100	1	101	1
Dublin and Galway—50s. shares	100	1	101	1
Dundalk and Enniskillen—50s. shares	100	1	101	1
Eastern Counties—25s. shares	100	1	101	1
East Lincolnshire	100	1	101	1
Edinburgh and Glasgow—50s. shares	100	1	101	1
Edinburgh and Perth	100	1	101	1
Exeter, Devon, and Dorchester—50s. shares	100	1	101	1
Goole and Doncaster—20s. shares	100	1	101	1
Grand Junction—100s. shares	100	1	101	1
Grand Union (Nottingham and Lynn)	100	1	101	1
Great Grimsby and Sheffield—50s. shares	100	1	101	1
Great Southern and Western (Ireland)—50s. shares	100	1	101	1
Great North of England—100s. shares	100	1	101	1
Great Western—100s. shares	100	1	101	1
Guilford, Farnham, and Portsmouth—50s. shares	100	1	101	1
Hull and Selby—50s. shares	100	1	101	1
Isle of Axholme—20s. shares	100	1	101	1
Lancaster and Carlisle—50s. shares	100	1	101	1
Leeds and Carlisle	100	1	101	1
Leicester and Birmingham—20s. shares	100	1	101	1
Leicester and Bedford—20s. shares	100	1	101	1
Leicester and Tamworth—20s. shares	100	1	101	1
Liverpool and Leeds Direct—50s. shares	100	1	101	1
Liverpool, Manchester, and Newcastle Junction	100	1	101	1
London and Birmingham	100	1	101	1
London and Birmingham Extension—25s. shares	100	1	101	1
London and Blackwall	100	1	101	1
London and Brighton—50s. shares	100	1	101	1
London and Croydon	100	1	101	1
London and Greenwich—50s. shares	100	1	101	1
London and South Western	100	1	101	1
London and York—50s. shares	100	1	101	1
London, Warwick, and Kidderminster—50s. shares	100	1	101	1
London, Salisbury, and Yeovil—50s. shares	100	1	101	1
Londonderry and Culteragh—50s. shares	100	1	101	1
Londonderry and Enniskillen—50s. shares	100	1	101	1
Lynn and Ely—25s. shares	100	1	101	1
Lynn and Dereham—25s. shares	100	1	101	1
Manchester and Leeds—100s. shares	100	1	101	1
Manchester and Birmingham—40s. shares	100	1	101	1
Manchester, Buxton, and Matlock—20s. shares	100	1	101	1
Manchester and Southampton	100	1	101	1
Midland	100	1	101	1
Ditto Birmingham and Derby	100	1	101	1
Newcastle and Carlisle—25s. shares	100	1	101	1
Newcastle and Carlisle—100s. shares	100	1	101	1
Newcastle and Darlington Junction—25s. shares	100	1	101	1
Ditto New (Branding)—25s. shares	100	1	101	1
Newport and Abergavenny	100	1	101	1
Newry and Enniskillen—50s. shares	100	1	101	1
Newark, Sheffield, and Boston—25s. shares	100	1	101	1
North British—25s. shares	100	1	101	1
North Devon	100	1	101	1
North Eastern—50s. shares	100	1	101	1
North Kent and Direct Dover—50s. shares	100	1	101	1
North Staffordshire—20s. shares	100	1	101	1
North Wales—25s. shares	100	1	101	1
Norwich and Brandon—20s. shares	100	1	101	1
Northampton, Banbury, and Cheltenham	100	1	101	1
Oxford, Worcester, and Wolverhampton	100	1	101	1
Perth and Inverness	100	1	101	1
Portsmouth Direct—50s. shares	100	1	101	1
Portsmouth and Weymouth—50s. shares	100	1	101	1
Richmond—20s. shares	100	1	101	1
Rugby and Hastings—20s. shares	100	1	101	1
Scottish Central—25s. shares	100	1	101	1
Scottish Midland—25s. shares	100	1	101	1
Sheffield and Manchester—100s. shares	100	1	101	1
Shrewsbury and Birmingham	100	1	101	1
Somersetshire Midland	100	1	101	1
South Devon—50s. shares	100	1	101	1
South Eastern and Dover—30s. 2d. 4d.	100	1	101	1
South Midland—20s. shares	100	1	101	1
South Wales—50s. shares	100	1	101	1
Staines and Richmond—20s. shares	100	1	101	1
Trent Valley—20s. shares	100	1	101	1
Trent Valley and Holyhead Junction—20s. shares	100	1	101	1
Vale of Neath	100	1	101	1
Waterford and Kilkenny—20s. shares	100	1	101	1
Welsh Midland	100	1	101	1
Wills, Weymouth, and Weymouth—50s. shares	100	1	101	1
Yarmouth and Norwich—20s. shares	100	1	101	1
York and Carlisle	100	1	101	1
York and North Midland—50s. shares	100	1	101	1
Ditto Selby—50s. shares	100	1	101	1

FOREIGN RAILWAYS.

RAILWAYS.	Value	Change	Value	Change
Boulogne and Amiens—20s. shares	100	1	101	1
Bordeaux and Toulouse and Cette (Bordeaux)—50s. shares	100	1	101	1
Central of Spain—20s. shares	100	1	101	1
Dutch Rhine—20s. shares	100	1	101	1
East Indian	100	1	101	1
Great Northern of France (constituted)	100	1	101	1
Great Western Bengal	100	1	101	1
Great Western Canada—22l. shares	100	1	101	1
Jamaica and South Midland Junction—20s. shares	100	1	101	1
Jamaica North Midland	100	1	101	1
Louvain and Jemeppe—20s. shares	100	1	101	1
Lyon and Avignon—20s. shares	100	1	101	1
Luxembourg	100	1	101	1
Namur and Liège—20s. shares	100	1	101	1
Orleans and Vierzon—20s. shares	100	1	101	1
Orleans and Bordeaux—20s. shares	100	1	101	1
Paris and St. Quentin—20s. per share	100	1	101	1
Paris and Orleans—20s. shares	100	1	101	1
Paris and Rouen—20s. shares	100	1	101	1
Rouen and Havre—20s. shares	100	1	101	1
Sambre and Meuse—20s. shares	100	1	101	1
Strasbourg and Bielefeld—14s. shares	100	1	101	1
West Flanders	100	1	101	1

* Prices obtained from country brokers—no business doing in the London market.

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Length. Rwy.	Present actual cost.	Last Div.	Traffic Returns, 1846	1845
Arthroth and Forth	15	£140,792	32 1/2	216 0 0	£ 182
Chester and Birkenhead	15	689,632	24	785 7 0	572
Dublin and Drogheda	24	61,258	4	161 7 1	802
Dublin and Kingsland	6	349,736	9	1279 5 3	1002
Dundee and Arbroath	17	153,598	6	294 16 7	282
Durham and Sunderland	19	302,118	2	688 12 8	720
E. Counties & North, & East.	1244	4,090,329	5	10066 2 7	4992
Edinburgh and Glasgow	46	1,686,226	6	3515 5 2	2809
Glasgow, Paisley, and Ayr	51	1,104,773	4	2309 4 10	1905
Glasgow, Paisley, & Greenock	23	806,134	2	1129 11 10	972
Grand Junction Company	119	2,357,317	10	429 15 10	5612
Greenwich and Rochester	7	85,007	1	10 0 0	1756
Great North of England	45	1,296,196	6	429 15 10	196
Great Western	240	8,179,960	8	21793 1 8	19384
Hartlepool	10	84,720	6	161 11 4	879
London and Birmingham	176	7,417,217	10	43370 6 10	19997
London and Blackwall	4	1,878,861	11	1658 17 9	1205
London and Brighton	69	2,632,673	7	6498 9 4	4467
London and Croydon	10	842,598	34	1729 19 19	1416
London and South-Western	83	2,680,724	10	8609 17 4	3718
Manchester and Birmingham	85	2,197,585	6	6392 11 4	3769
Manchester & Leeds	61	3,972,969	8	7608 8 6	6040
Manchester, Bolton, & Bury	10	842,720	6	161 11 4	879
Midland Company	109	6,686,106	6	19747 0 8	11517
Newcastle and Carlisle	33	1,187,863	5	1875 5 11	1326
Newcastle and Gateshead	22	316,969	5	681 11 4	466
Newcastle and North Shields	7	273,818	5	1603 4 6	289
North Shields	50	1,060,551	6	—	1423
North Union, Bolton & S.	32	820,014	9	1344 10 9	403
Nottingham and Wyre	22	429,213	2	2569 6 10	1907
Nottingham and Manchester	41	1,812,045	8	10463 6 10	6314
Nottingham, Eastern and Dover	303	2,984,524	2	1345 15 10	1007
Nottingham Vale	20	646,248	2	897 15 10	498
Nottingham and Lincoln	20	368,358	3	—	289
Nottingham and Norwich	20	260,037	5	—	289
Nottingham and North Midland	53	1,582,859	10	5617 16 11	2656
Nottingham and Orleans	22	2,069,916	4	5234 9 6	3160
Nottingham and Rouen	84	1,805,206	9	5522 0 0	3805

way—no matter the locality—a demand for labour is created; and for driving tunnels, &c. indeed any labour, where the pick or shovel can be employed, some are better suited than the Cornish miner. The rate of wages we will assume to range from 4s. to 5s. per day; here, then, we have at once an increase on the rate paid to the miner of upwards of 100 per cent. The result may well be foreseen; employment will be afforded for the next two or three years, and the operative miner will gladly forsake his toilsome labour to breathe the fresh air, and, by exercise, invigorate his strength—while the increased pay will enable him to indulge in comparative luxuries, and afford comforts to his family. But let us see what is the result; the miner's occupation becomes that of the "navies." A want of miners is created, wages advance, and many mines now working will, we fear, be suspended from the increased cost attendant on their operations. We trust that our prognostications will not be borne out; and, perhaps, the best evidence we can adduce is, that a gentleman, who, we believe, is not only the largest mine proprietor in Cornwall, but who has endeared himself to all as the miner's friend, presides as chairman of the Cornwall Railway or Coast Line—we refer to Mr. J. T. TREFRY—and we trust, therefore, that the question we have raised, may not be so momentous as we apprehend. We cannot, however, conceal from ourselves the fact, that the value of labour has been considerably enhanced in all cases where railways have been constructed; and without a surplussage of labour, beyond the actual wants of the district, we can very well imagine such must be the effect in the present instance. Having said this much, we have only to recommend to managers and those employed, that they should not too hastily adopt railways in preference to mines, although the former may hold out inducement by increased pay—railways may occupy some two or three years: mines are for centuries.

In another column will be found a letter from Mr. WALLIS, on subject of the accident on the Brandling Junction Railway, in reply to a communication which appeared in the Journal of the 30th ult. in defence of the course pursued by the directors—it appearing from the Report of the Committee of Enquiry, which was therein quoted, that the cause of the directors or engineer having adopted the curved line, was in consequence of obstacles thrown in the way by our correspondent. We are well pleased that this explanation, or rather denial, on the part of Mr. WALLIS, should have taken place, as it affords another instance of the incapacity of the constituted authorities, on whom devolves inquiry in cases of accidents, to arrive at a fair and proper conclusion, or to enforce such arrangements as may insure security to the public. The letter sufficiently speaks for itself, and we trust that Col. PASLEY will feel himself called upon to institute further inquiry than that which attended the first report made by him, and submitted to the Legislature. There is too much jobbing going forward in the laying down of lines, without the slightest care being displayed towards the public safety; and we think these matters cannot be too closely probed or investigated.

Having hailed the formation of the General Mining Company for Ireland, as calculated to assist in the development of the mineral wealth of that country, and give additional and permanent employment to portions of the population, it gives us great pleasure to find, that the directors are devoting themselves to the work with all their energies, and that their perseverance appears likely not to go unrewarded. At the first half-yearly meeting, held on Monday, the 1st inst., in Lower Sackville-street, Dublin, which was numerously attended, and at which Sir JAMES MURRAY presided, the report gave the utmost satisfaction to all present. It stated, that the directors had obtained the complete registration of the company in February last—and, after mature deliberation, had decided upon following the good example of the Mining Company of Ireland, whose success had reflected such credit on the company, and following out the patriotic recommendations of Sir R. KANE; that owing to the depression of the money market, they had refrained from making a call hitherto—and instead of a 2l. 10s. call, as authorised by the original prospectus, they had now decided upon a call of 10s. per share only, which it was hoped would be sufficient to carry on the works during the current year. Since the date of registration, the directors had collected information of, and been in treaty for, such mines as were likely to prove profitable; they had taken, at a royalty, the lead mines of East and West Shallee, which were set to work in April last, and the copper mines of Lackamore, now in full operation—a cargo of lead would be sent to market in a month or six weeks, and about 20 tons of copper from the Lackamore Mines; two other mines, of very favourable indications, had been secured at reasonable royalties. The report further observed, that it required much time and attention to bring the affairs of the company to such state on only a payment of 2s. 6d. per share—a position which no other company, with such slender means, is recorded to have reached. The Shallee Lead Mines embrace 1000 acres, 14 miles from Limerick, and five from Killaloe; 40 miners are employed, and earning good wages on tribute. The Lackamore Copper Mine is 12 miles from Limerick, embracing a run of an English mile on the course of the lodes; there are about the same number of miners employed; and, as soon as possible, the works will be extended, with every prospect of a successful result. The following motto headed the report:—"Employ the people, and enrich yourselves, by developing the great natural resources of the country." Mr. O'DRISCOLL, and several gentlemen, addressed the meeting on the highly favourable position of the company; and Dr. BRADY emphasised the conduct of Mr. PHILLIP JONES, who, as a merchant of Dublin, had kept them afloat, and sustained their character and credit, at a time when, through the panic that existed, they must have been swamped, but for his assistance; he moved a vote of thanks to that gentleman, which was unanimously responded to. The report and accounts were adopted with acclamation; and we have no doubt, that the anticipations of the directors, as expressed by the chairman, will be realised—viz.: that while the people were scrambling for miserable half acres of land above ground, there were thousands of acres of metals and minerals lying neglected below it; that the capital invested on railways was very large, while its return was distant and small; and that a more certain and safe investment could be made in mines, now that railways were near them; that improvements had taken place in raising and smelting ores; and that the people, by their fidelity to temperance, evinced that they were able and willing to work, and that they sought to merit the confidence of their employers.

So far the General Mining Company for Ireland has prosperously opened its campaign, with every prospect of increasing success. The Southern and Western Mining Company of Ireland has also, we understand, been proceeding with spirit in the opening out the Gurtavally Mine; and, as their first general assembly will shortly take place, we hope to be able to congratulate the people of this part of Ireland, and the proprietors, on the results of the progress made in that mine, as well as in obtaining others. The Mining Company of Ireland has been, during the past half year, fully acting up to their motto—"Industry, Economy, and Perseverance." The Knockmahon Mine has yielded during the past quarter considerably more than an average return; and the other concerns working by them have, we understand, produced the usual profitable results. The half-yearly meeting of this company will also be held in about three weeks. Turn which way we will, there are certain indications of the steady progress of mining in Ireland; and when, by the development of the railway system, facilities shall be afforded for the economical carriage of the ores, we hope to see her become, in every sense of the word, a mining country, and raising from beneath the surface that wealth for the benefit of her population, which, for want of capital and confidence, has hitherto lain dormant and useless. That mining can be

followed up with profit, where skill and judgment are brought to bear with capital, may be inferred (among several others) from the Coahoon Mines, which, in six years after opening by a late company, returned 17,000l. worth of ores, on a capital of 2500l.—some of the ores from which occasionally averaged nearly 30l. per ton. Since writing the above, we have received a communication from a correspondent, by which we learn, that the ores for sale, in about a month, are those raised during April and May, and which are now in course of dressing—that the shares are bearing a steady premium—and that, for so young a company, they are progressing in a manner which cannot fail to draw the attention of capitalists generally to the resources of Ireland.

IMPROVED PROCESS IN THE REDUCTION OF SILVER ORES.—The enormous amount of British capital which, during the past 20 years, has been sunk in South America and Mexico, in the attempt to reopen the mines of the precious metals, for which those portions of the New World have been famous for the past three centuries, without producing those profitable results which were fully calculated on by the sanguine promoters of the companies, renders an authentic descriptive notice of the silver mines of Mexico particularly interesting. Our readers will recollect that, in the early part of last year, a series of valuable papers appeared in the *Mining Journal*, from the pen of John Phillips, Esq., the secretary of the Real del Monte Mining Company: these have been collected, and published by P. Richardson, of Cornhill, under the title of a *Descriptive Notice of the Silver Mines and Amalgamation Process of Mexico*. Mr. Phillips, from his position as secretary to one of the largest companies, and from his having spent some time in Mexico, and made himself acquainted with the various details connected with the mines, is well qualified for the task he has undertaken, and very fairly accomplished. After alluding to the difficulties which arise in the land carriage of heavy goods, from the general mountainous nature of the country, he proceeds to describe the silver mines of Pachuca, Atotonilco el Chico, Real del Monte, Guanajuato, Zacatecas, Fresnillo, Plateros, El Doctor, Oaxaca, and Bolanos—their system of working, and mode of drainage. The most important portion, however, of the pamphlet, is the account given of the present mode of obtaining the metallic produce of the ores by amalgamation, in which so large a sum is annually expended in the monopolised article of quicksilver, and the description of the results of newly-discovered processes in which mercury is not required, and by which a greater proportion of the silver actually contained in the ores is obtained than by the old method. The new processes (of which there are two) for the reduction of the ores, without the aid of quicksilver, were discovered in Germany by Mr. Ziervogel, and Mr. A. E. Spangenberg has proceeded to Mexico, to try it on the ores of that country—the result of which, as will appear by the accounts from the Real del Monte Mines, in another column, is most satisfactory. The first discovery is, that chloride of silver is more readily soluble in a hot saturated solution of salt than in a cold: the ore is first calcined with salt, which converts the sulphuret into a chloride: it is then at once removed from the furnace to a suitable tub, or other vessel, and a hot solution of salt poured over it, which immediately takes up the chloride of silver, and holds it in solution; the liquid is then drawn into another vessel, containing metallic copper, when the solution is decomposed, the silver precipitated, and the liquor, by a simple process, is brought to its original starting point, and may be used over and over again with but little loss of salt. The second discovery is, that sulphate of silver is soluble in hot water alone. The ores, or sulphures, are carefully roasted in a reverberatory furnace, until they are converted into sulphates, when they are thrown into a suitable vessel, and boiling water poured over them, which immediately dissolves the sulphates; the liquid is then drawn off, and the silver precipitated by the same method as the first process. This last process is best adapted for ores which contain a large portion of iron and copper pyrites, as a certain quantity of sulphur must be present, to insure the conversion into a sulphate. The present process of amalgamation involves enormous annual expenses; and should these simple processes succeed, they will form a new and profitable era in the history of the silver mines of Mexico. The author concludes by advising those who have embarked their capital in Mexican mines not to despair, as, by adopting a proper system, success may yet be near, and in the end prove, that the disrepute into which Mexican mining had fallen has arisen almost solely from the erroneous principles upon which the English companies were conducted, at the outset, in the selection of their mines.

HOPKINS'S SAFETY RAIL FOR RAILWAYS.—We have, during the week been favoured with an inspection of a new description of rail, being a combination of wood and iron, for preventing the engine or trains by almost any possibility running off the line—at the same time securing a much firmer grip or bite of the wheel on the rail, than can be obtained on the present iron rails. According to the various systems of laying rails, which have been acted upon from the commencement of the railway system to the present time, the cost has varied from 4400l. to 8000l. per mile—while, by Mr. Hopkins's plan, the cost per mile of the upper works of a complete double line, would not much exceed 2000l. per mile; the inventor states, (and, in the absence of actual experiment, we see no reason to doubt the conclusions at which he arrives, viz.: that the patent wooden rail possesses very high and peculiar engineering advantages, while it is free from all the disadvantages and defects of the iron rail; and that, by the addition of the safety rail, which is a distinct appendage to the wooden rail, on which the wheels run, all accidents, arising from the engine or carriages running off the line, are rendered impossible. The following is a description of this invention:—In the first place, it must be premised that all the timber used must be seasoned, rendering it semi-metallic, proof against wet or dry rot in every situation, and resisting the attacks of insects. Sleepers are laid either longitudinally or transversely; on these are laid the wooden rails, having on the inner edge an iron friction plate bolted to it, to receive the friction of the flange of the wheels. The protection rail is a continuous line of timber, capped with iron, which slightly projects over the wood on the side next the wheel; it forms in section a right angled triangle—is also bolted to the sleepers—and placed either outside or inside in such a manner, that while the wheels are in their proper place, it does not touch; but, should a jumping motion occur, with a tendency to run off the line, it is sufficiently close immediately to receive the concussion, and thus slide the wheels off again into their proper place; in fact, the two form a complete channel, four or five inches deep, for the wheels of a train to run in, and prevent the flange rising on the rails. The advantages, which the patentee claims for this description of rail, are—great economy in the first cost, and in the wear and tear of the upper works of the railway;—and in the first cost, and wear and tear of engines, tenders, and carriages; a firmer grip, or hold, for ascending inclines; and perfect safety, with greater comfort to the passengers, from the absence of all noise, or jolting, or oscillating motion. A model, on a full working size, may be seen at the office, 2, Parliament-street, which on inspection certainly appears capable of sustaining the advantages claimed for it.

THE ZINC AND COAL MINES OF PRUSSIA.—The great demand which now exists for zinc on the continent of Europe, and the marked success which has attended the working of zinc mines by companies in Belgium and France—such as the Vieille and Nouvelle Montagne, and the Autouins et des Mines Reunis Companies—holds out the most lucrative prospects from the produce of this metal, particularly where the ore and abundance of coal are found in the same locality. An association has been formed under the title of the "D'Arleincourt Prussian Zinc and Coal Company," with the view of working some most extensive concessions in the Prussian territories, containing abundance of calamine (carbonate of zinc), and coal of excellent quality, and for which a lease has been secured for 45 years. The first of these is called Wilhelmine, situated at Stolberg, near Aix-la-Chapelle; and consists of 1660 acres of mining property, containing extensive deposits of calamine, which produces 42 per cent. of zinc, associated with coal, lead, and iron. The operations of the company will, however, be directed particularly to the distillation of zinc, and the sale of coal for household and manufacturing purposes. The other portion of the property lies in the townships of Barmen, Schwelm, and Langerfeld, in Düsseldorf, and consists of a rich coal-field, possessing several beds of bituminous coal, so near the surface as to render steam power unnecessary. The right of mining extends over 15,000 acres, extending in length 15½ miles, through a district studded with manufactories; and the State railway, now in course of construction, passes both properties, and will be of the utmost importance in presenting extraordinary facilities for the conveyance of coal to all towns within 50 miles. The coal, we are informed, is fit for smelting, even at the depth of 20 ft.; but at 100 ft., is of the most superior quality for household and other purposes. It takes about 18 tons of coal to produce one ton of zinc; and the circumstance of the coal and

ore being rarely found in the same locality, has been the cause of its high price, and has, to a certain extent, prevented its fair competition with the other metals; and as in these concessions they are found in united abundance, there is little doubt but that much more profitable results must follow their working. One very curious fact, in connection with this property, is, that the calamine is connected with an aluminous schist, which, from time immemorial, has been employed in the manufacture of sulphate of alumina (alum); while the more valuable part (the carbonate of zinc), has been thrown on one side as useless, forming an immense hill of calamine, called the "Red Mountain," ready without labour for the smelting-house. The purchase money required for these concessions is 300,000l.—200,000l. of which is to be taken in shares; and it is, therefore, proposed to raise a capital of 400,000l., in 20,000 shares of 20l. each, when operations can immediately be commenced, and profitable returns secured.

NEW DELABOLE SLATE QUARRY COMPANY.—We have before us a prospectus of a company, formed for working the famous Delabole slate rock, situated in the parish of Warbstow, near Launceston, seven miles from Camelford, and four from a shipping port. This slate has been worked and well known for the last half century, and which for beauty of colour, closeness of texture, and strength, is unsurpassed by any in the market. The formation of this company can, therefore, hardly be considered a speculation, as from the inexhaustible nature of the material, and the markets continually open for its sale, it requires but a straightforward system of prudent economy in the management to render it at least equal to the Old Delabole Company, whose shares of 25l., paid up, are worth 45l. The slate is most valuable for staircases, balconies, paving, lintels, fishmongers' and poultryers' stall boards, cisterns, tombs, and other similar purposes; and some tablets in the north wall of the ancient church of St. Teath show it to have stood the ravages of the destroyer, Time, since 1686. A lease has been obtained for the term of 21 years, at 20s. per man per annum under 20 men, and 30s. for all above; and it has been calculated, from the most careful estimates, that after paying 25 per cent. per annum to the shareholders, there will be a clear balance of upwards of 1000l. a year to form a reserve fund, which in little more than two years will pay off the first deposit of capital—viz.: 2l. 10s. per share. The capital proposed being 1000 shares of 5l. each; but 2l. 10s. paid is considered sufficient to put the quarry into a profitable state of working.

THE GAUGE QUESTION—PROPOSED SETTLEMENT.

The report of the commissioners, appointed in July last to investigate this important question, having been laid before a Committee of the Privy Council, they have, after mature deliberation, embodied their recommendations on the subject, in a minute which has been laid before Parliament. It will be remembered that the commissioners in their report stated—"That as regards the safety, accommodation, and convenience of the passengers no decided preference is due to either gauge; that with respect to speed, though we think the advantages are with the broad gauge, we think the public safety would be endangered, in employing the greater capabilities of the broad gauge, much beyond their present use, except on roads more consolidated, and more substantially and perfectly formed, than those of existing lines; that, in the commercial case of the transport of goods, we believe the narrow gauge to possess the greater convenience, and to be more suited to the general traffic of the country; that the broad gauge involves the greater outlay; and that we have not been able to discover, either in the maintenance of way, in the cost of locomotive power, or in the other annual expenses, any adequate reduction to compensate for the additional first cost." They then proceeded to show, that as the extent of the broad gauge was only 274 miles, while the narrow exceeded 1900 miles, that it was highly desirable—1. That the gauge of 4 ft. 8½ in. be declared by the Legislature to be the gauge to be used in all public railways now under construction, or hereafter to be constructed, in Great Britain.—2. That, unless by the consent of the Legislature, it should not be permitted to the directors of any railway company to alter the gauge of such railway.—3. That to complete the general chain of narrow gauge lines from north to south, any suitable measure should be promoted to form a narrow gauge link from Oxford to Reading and Basingstoke, or by a shorter route connecting the proposed Rugby and Oxford Line with the South-Western.—4. That as any junction, with a broad gauge line, involves a break of gauge, great commercial convenience would be obtained by reducing the width of the present broad gauge lines to the narrow gauge of 4 ft. 8½ in., and think it desirable that some equitable means should be found of producing such entire uniformity of gauge, or of adopting such other course as would admit of the narrow gauge carriages passing uninterruptedly on the broad gauge lines. These recommendations are founded on common sense—were framed after a most minute inquiry into the circumstances of the case by examination of unbiased parties, whose experience, both commercial and scientific, rendered their evidence of the utmost value—and, we believe, these opinions were those of nine-tenths of the railway public. We cannot but regret that the labours of this commission appear likely to be thrown to the winds, as the Committee of the Privy Council have recommended a widely different course on an inquiry, which we are told is to be a final one; and this course, it must be evident, will palpably increase the difficulties, which, in their minutes, they profess to regret, and endeavour to remove. After stating, "that they fully concur in the general conclusions at which the commissioners have arrived with respect to the advantages of a break of gauge for the conveyance of the internal traffic of the country, they are of opinion that the facts set forth, and the evidence by which they are supported, incontrovertibly establish the conclusion, that 'a break of gauge is a serious evil,' and they agree with the commissioners that none of the mechanical contrivances, or other methods proposed for mitigating the evil, are calculated to remedy, in any important degree, the inconveniences." In the face of this acknowledgment, they recommend a complex plan as follows—viz.: 1. That no line shall hereafter be formed on any other than the 4 ft. 8½ in. gauge, excepting lines to the south of the existing Great Western Line, and small branches from it, unless a special report shall be made by the committee on the bill, setting forth the reasons for such deviation.—2. That, unless by consent of the Legislature, no company shall alter the gauge.—3. That, in order to complete the general chain of narrow gauge communication from the north of England to the southern coasts, and to the port of Bristol, any suitable measures should be promoted to form a narrow gauge link from Gloucester to Bristol, and from Oxford to Basingstoke, or by any shorter route connecting the proposed Rugby and Oxford Line with the South-Western Railway.

So far they harmonise with the commissioners; but then follows two clauses in direct opposition to the three first, and which, if acted upon, will most assuredly widely extend the evil; they are as follows.—4. That the South Wales Line, and its branches to Monmouth and Hereford, shall be formed on the broad gauge; and 5, that the Rugby and Oxford, and the Oxford, Worcester, and Wolverhampton, shall also be formed on the broad gauge; additional narrow gauge lines to be laid from Rugby to Oxford, and from Wolverhampton to the junction with the Birmingham and Gloucester Line, and, should it be hereafter required, a narrow gauge line should be promoted from Oxford to the Birmingham and Gloucester Line. It does appear to us, that this decision is more in favour of the Great Western Railway, than in accordance with common sense, or the result of the cool deliberation of men of business; in short, the minutes state, that the committee's decision was come to from the printed evidence, "and having had under their consideration documents officially transmitted to them by the Great Western Company." The laying one single rail at 4 ft. 8½ in. distance from the inside rail of each broad gauge track on the 274 miles of railway would at once have overcome the evil, and would have enabled the Great Western Company to have worked both broad and narrow carriages, to the general convenience of the community, until by degrees they would, probably, discontinue the 7 feet carriages altogether; the expense of this, which might have been defrayed by Government, or by a fair rateable proportion on all the railways in the kingdom, would be a mere trifle, compared with the delays and inconvenience which must arise, if the present recommendation is carried into effect. At present the only break of gauge is at Gloucester; by constructing the South Wales Railway on the broad gauge, the points of breakage will be multiplied to an unforeseen extent; at Hereford, and every point where it will be connected with the North Wales Lines, and with Shropshire, Staffordshire, Cheshire, and Lancashire. The Taff Vale and the Llanelly Lines are so situated as to form most convenient branches to the South Wales Line; but, being on the narrow gauge, that will be impossible. The Cornish Lines must also all be formed on the expensive and uselessly wider gauge, or still further confusion must ensue throughout the Devon and Cornish peninsula. We do trust that these points have been overlooked, and that the Government and the Legislature will still act on some better mode of getting rid of the evil, which a difference of gauge has entailed on the public, and which, if allowed to be extended as here recommended, will neutralise a large portion of the advantages of railway transit, both as regards passengers and merchandise.

METALLURGICAL TREATMENT OF LEAD ORES.—No. V.

It is very evident that such a mixture as the above, heated in contact with carbon, ought to undergo changes, inducing the sulphate to pass to the state of sulphuret, the oxide to be reduced to the metallic state, and the unroasted sulphuret to become subsulphuret. This is, at least, the effect which would take place, under like circumstances, with the above-mentioned bodies in an isolated state. Indeed, the oxide and the sulphate might react on the sulphuret; but the latter exists (as the analysis proves) in such small quantity, that the metallic lead thus produced would be insignificant. It must be admitted, therefore, that in proportion as the sulphate is reduced to the state of sulphuret by means of the charcoal, this sulphuret, so formed, reacts on the neighbouring particles of sulphate, giving rise to sulphurous acid, and matts, containing but a small quantity of sulphur. As these substances are but slightly softened, the lead separates from the matts, and leaves a sulphuret, which is richer in sulphur and less fusible than lead—a sulphuret which reacts afresh on the remaining sulphate. There are, we see, a very complicated series of phenomena, and which, doubtless, produce at the same moment, in different parts of the furnace, a sulphuret of lead at the expense of sulphate, by the aid of charcoal; a reaction of the sulphuret in the sulphate, giving rise to sulphurous acid and matts, containing but little sulphur; a liquation of these matts, which transforms them into metallic lead, and a sulphuret richer in sulphur; and, lastly, a reaction of this sulphuret on the remaining sulphate, with a new formation of matts, &c. &c. We can thus, by the difference of the furnaces, account for the difference in the necessary conditions of the state of the ore. For instance, in the reverberatory furnace the passage of pure hot air tends continually to convert the sulphuret into sulphate. By a mixture of the two compounds the necessary reaction is induced, but then the residue is sulphate of lead. In the ore-hearth, on the other hand, the coal and the carburetted gases, proceeding from its decomposition, exercise incessantly, a deoxidizing effect. The sulphate again becomes sulphuret, which latter reacts on the undecomposed sulphate, and a sulphuret is the residue.

Having premised thus much, we will proceed to the description of the actual operation, as carried on at Pezay. The furnace is set in operation by burning in it a certain quantity of wood charcoal. This expense is much moderated by fusing (at the time the fire is getting up) the "runnings" (coulures) before-mentioned, as their reduction requires but a very low temperature. This done, more charcoal is added; and above that, at the side of the tuyere, is placed about 1 cwt. of ore—after which the blast is thrown on. In about a quarter of an hour the lead generally commences running. The charges succeed each other every half hour, until about 8 cwt. of ore have been employed—this quantity of ore makes generally nine charges, requiring, in the whole, eight hours to work off; when a sufficiency of ore to make this last charge is not to be obtained, it is made with the slags which the workman has from time to time picked out of the furnace. During the whole of this time the labour of the workmen consists in clearing the gutter, in order to allow the lead to run freely, so that it may not undergo any loss by remaining unnecessarily long in the furnace—to take from the furnace certain slags (to be used in the last charge, as before stated), and occasionally to stir up its whole contents. When this charge has been sufficiently worked, the contents of the furnace are stirred with a large poker, and all the slags are taken out; after which they are again thrown in the furnace on some fresh charcoal. This constitutes the tenth and last charge of the smelting, properly so called. Then only matts are to be seen—a portion runs into the iron boiler (melting pot), containing the lead; another portion congeals on the workstone; as it forms it is again thrown into the furnace, and, as it is already slightly solidified, it parts freely with its contained lead. This tenth charge is worked off just to the tuyere, which operation requires from three quarters of an hour to an hour. After this, one of the workmen raises the slags, and throws them out of the furnace—a second prevents them falling into the melting pot, and throws them on the ground—while a third is employed throwing water upon them. By the action of this water on the hot slags, a very strong odour of sulphuretted hydrogen is developed. The smelting being thus accomplished, the liquation, or sweating, is commenced. The liquation is an operation very nearly like the preceding, but in which the furnace is charged with only the dross found in the bath of lead, the slags which may remain in the furnace, and the matts which have been collected in the passages. As the relative proportion of earthy matters has much increased by the separation of a considerable quantity of metal, this residue requires a very much higher temperature than before employed. The emptied and cleansed furnace has now placed in it a considerable quantity of charcoal, above which is placed about a half or a third of the slags—some of the skimmings of the lead are also added. After about half an hour, when the charge has considerably sunk in the furnace, some more charcoal is added, and above that slag. All the following charges, which amount to about three or four, are made in the same manner. The workman with a poker stirs up the whole of the substances in the furnace, allowing a small portion of fluid slag to pass out, which is carefully cooled with water, and again placed in the furnace by the top. To the last charge is added the lead dross collected during the liquation, and the operation is allowed to go on until nearly the whole of the fuel is consumed. At this time the impoverished slags are more difficultly fusible, the heat decreases, and the sides of the furnace become studded with small lumps of slag, which are removed by means of a poker. The fragments thus detached are extracted from the furnace, either by the breast, or, when too large, by the top opening. The slags thus collected are mixed with charcoal and globules of lead; they amount to about a fifth, or a sixth, of the ore employed. They are treated on the slag-hearth, in which they give from 15 to 20 per cent. of a lead, which is poorer in silver (when the ore is argentiferous) than that obtained in the smelting, but richer than that produced by the slags of the reverberatory furnace. It is important to observe, that this furnace is very readily worked, and is nearly always very successful in its operation. The following are the products of an ordinary operation:—Eight cwts. of roasted ore give 3½ cwts. of lead in the smelting, and 1½ cwt. of lead in the liquation; about 1½ cwt. of slag, produced by the two above operations, gives, on the slag-hearth, ½ cwt. ditto—total, 5½ cwts. ditto, consuming from 1½ cwt. to 1½ cwt. of charcoal in the smelting, and about the same quantity in the liquation, &c. Thus 100 of rough ore, giving 65 per cent. of metal, give about 61½ in the melting and liquation, and about 3½ in the slags.

In England the working of the ore-hearth is not exactly the same as at Pezay. The advantages of the process formerly employed at Pezay (of which the description has just been given) are very doubtful, where a regular and considerable working is carried on; but this process is exceedingly applicable to the treatment of plumbiferous substances, under circumstances where too small a quantity can be obtained to cover the expense of erecting the more expensive furnaces in general use by other methods. The English process consumes much less fuel than that at Pezay, and its working is not so onerous, or long. On these two heads it rivals other processes. Either ores roasted in the reverberatory furnace are treated, or unroasted ores; but these last must contain a considerable quantity of carbonate of lead. When a smelting has been finished, a portion of the ore, termed *brouse*, remains in a state of semi-reduction, mixed with coke and slags. It is found more advantageous to preserve this, to commence a fresh operation (smelting), than to employ rough, or even roasted ore. To set the furnace in work, the interior is filled with peat, cut into bricks, taking care to place those in the front in the form of a wall; in order to increase the heat, some coal is added. When the whole is in a good state of ignition, a certain quantity of *brouse* is added; at the same time the greater part of the contents of the furnace is drawn towards the workstone by means of a large iron rake; the refuse of the ore, known as *grey slag* (which the smelter can readily distinguish, from its having a greater lustre than the *brouse*), is picked out, and thrown to the right hand, in a corner outside the furnace; the *brouse* left on the workstone is now thrown into the furnace, and, if necessary, a little coal is added. If the *brouse* does not separate cleanly from the slag, a little lime is added, which gives all the earthy matters present the property of forming themselves into distinct masses—these masses, termed *grey slag*, contain yet about a tenth, or a fifteenth, of the total contents of the ore: they are fused on the slag-hearth, to extract the lead they contain. After having thrown the *brouse* back into the furnace, a few shovelfuls of ore are placed upon it; but before this, and after the extraction of the slag, half a peat must be placed before the tuyere, to spread the blast through all the vacant parts of the furnace. This done, after 10 or 15 minutes, the contents of the furnace are again drawn on the workstone, and the slag again removed. A fresh turf is then placed before the tuyere, lime added in suitable propor-

tions, and the furnace recharged. The same operations are repeated during 14 or 15 hours, which time constitutes a "smelting shift," in which time from 20 to 30 cwts. of lead are produced. By this process, the purest part of the lead, as also the silver, are separated by liquation, as it were, from those substances with which they were mixed, without the latter entering into fusion. The low temperature employed on the ore-hearth is the principal cause of the great purity of the lead obtained by the foregoing processes: by this process the ore yields 66 per cent. of good lead, and about 2 cwts. of ore are treated in about 40 minutes. The slags proceeding from this process undergo a complete fusion on the slag-hearth, where nearly all the lead they contain is furnished.

[To be continued in next week's Mining Journal.]

THE MINERAL WEALTH OF SOUTH AUSTRALIA.—No. III.

BY FRANCIS DUTTON, ESQ.

The prospects of South Australia becoming an extensive mining country, is next considered by the author; the subject intimately affects a large and important interest of home industry, and cannot fail, in a short time, to draw powerful attention to it; any new field of enterprise is looked upon for a long time with indifference and incredulity, and so, probably, will the mining capabilities of South Australia. Foreign mining speculations generally are in bad odour, and altogether there is much prejudice to be overcome: still there are arguments which must be all convincing; when large quantities of copper ore are seen to arrive from South Australia month after month, and sell at far higher prices than either Cuba or South American ores, which have hitherto been the richest in the world, they will begin to think there must be something in it after all. Mr. Dutton here relates an anecdote:—A gentleman connected with mining in Devonshire, with whom he conversed, observed—"Pooh! pooh! my dear Sir, all the ore you will ever send from South Australia will be but as a drop in a bucket." He says, time will show; but I can inform him, that the quantity of ore, which will arrive in Swansea even this year from South Australia, will be a drop of no inconsiderable size. Whatever her disadvantages might have been, considerable interest has already been excited amongst a good many intelligent capitalists in London—and London is England. Several companies have already been organised, and this promising field for the investment of British capital, will, doubtless, soon, from its own intrinsic merits, command that attention it deserves. Those who have already embarked in mining enterprise will assuredly have no reason to regret, that they were among the first; and the time is particularly opportune, as the South American ores are falling off in produce, and the rich South Australian ores will be much sought after by the smelters. With respect to the facilities of transport, as compared with South America, he observes—in South America it is a well known fact that thousands of tons of ore are lying at the mouth of the mines, without the means of bringing them to the coast, except at a ruinous expense; the mining districts there being so mountainous that the only available transport is by mules. In South Australia, the whole mineral district, as already explored, between Cape Jervis in the south, and Mount Bryant in the north—a distance of 150 miles—is easily accessible in every direction; the hills are of moderate elevation, and present no insurmountable barriers to the passage of wheel carriages—the roads passing either across extensive level plains, or winding round grassy hills, and through fertile valleys, are naturally very good. The climate being dry, the roads are not liable to be rendered impassable for any length of time by the rains, as these are seldom of more than a few days' duration at one period, with intervals of fine weather, which quickly dries and consolidates the surface again. The transport is carried on by drays drawn by six or eight bullocks, each having 2 tons of ore, and with which they travel from 15 to 18 miles a day; and in every direction there is abundance of natural pasture to feed the animals on at the end of each day's stage; the cost of transport is, by this means, less than 6d. per ton per mile. The next point of consideration is the means possessed to transmit the ore to England; and here the great staple article of the colony (wool) is of immense assistance—it being a light bulky article, and requiring a considerable quantity of dead weight to ballast the ships with, prior to taking it in: it is, therefore, obvious that vessels will find it worth their while to take in the ore at a moderate freight, instead of having to pay 2s. 6d. to 3s. 6d. per ton for sand ballast. They require rather better than one-third their registered tonnage as ballast; and taking the number of ships that annually load either at Port Phillip, Sydney, Hobarton, Launceston, and Adelaide, at 100, and each of 300 tons burden, would give facilities for the transport (allowing for other heavy articles) of 10,000 tons of ore per annum, without encroaching on the room required for wool. With respect to the labour which will be required, and available, the prospects are no less satisfactory, although, for some years to come, it is probable the supply will not be commensurate with the demand. There is no fear of overstocking the labour market of Adelaide now, for not only will the mines give employment to a vast number of men, but the very increase which this will cause to the population, will require an additional number of people to grow food for—and thus the increasing supply of the mining population will not only of itself increase the wealth of the country, but, by their consumption, increase the available market for the produce of the industry of others. The existence of coal in South Australia has been reported, but is not yet verified; and, even should it not be, the unbounded extent of the forests—the wood of which, when dried, burns with an intense heat and steady blaze, from the resinous matter it contains, and makes most superior charcoal—will enable the same operations to be carried on in smelting, as has for centuries been adopted in other mining districts, where coal does not exist. The question—does coal exist in the colony?—is one of the greatest importance; and on this subject we give the substance of the views entertained by Mr. Fortnum, whose experience of the colony has enabled him to take a comparatively correct geological view of the positions of the strata, in the absence of facts elicited by actual borings. He says:—"The mountain chain, which may be considered the backbone of the country, extends north and south for a distance of 150 miles, during which its features, of course, vary considerably, but, generally speaking, the clay slate, mica schist, gneiss, &c., are the most abundant met with; the peaks are sometimes granite, at others clay slate, and, in many instances, they are capped with the old red sandstone; the plains are of recent origin, consisting of alluvium, clay, calcareous sand, with abundance of shells of recent species, soft limestone, oolitic limestone, granite, &c.; and on ascending the hills, the recent limestone extends some distance up their sides, immediately covering the clay and mica slates. On arriving at the top, as before stated, we frequently meet with insulated masses of the old red sandstone; it necessarily follows that the great mass of this formation, from which these insulated blocks were separated by the upheaving of the older strata, must exist beneath the surface of the plain; and it is a question of the greatest importance, to ascertain what strata intervene between the recent limestone and this sandstone—for in that space should we look for the important deposits of the carboniferous series. It is evident, that the most probable localities for the discovery of the coal formation, will be at those points immediately at the base of the hills, where the recent deposits forming the plains are necessarily of less thickness, more particularly in such spots as may be exposed by the water-courses, or other similar means. To ascertain to what depth the recent formations extend in such situations, is of very great importance; but it is by no means a matter of certainty that the carboniferous series exist at all, for it is possible that the recent strata may rest directly on the old red sandstone. In some parts of the colony, as in the neighbourhood of the Hutt River, &c., the magnesian limestone occurs; and this is the rock which in the series immediately covers the coal formation: in other parts sandstones occur, differing from the old red sandstone in structure, being generally of a lighter colour, and less indurated, agreeing in character with the sandstones of the saliferous group. Unfortunately, sufficient attention has not yet been paid to the fossil shells, which may occur in these rocks, by reference to which a more accurate idea could be formed of their proximity to the coal series. As the main range of hills is chiefly of the old formation, it would be useless to search among them for coal; but at their bases, and in those deep gullies and ravines that are found in many parts of the country in water-courses, which by their depth expose the various strata, search should be made; but the adventurer should remember that, although he may actually discover coal, it by no means follows that it will be found, even on sinking deep into the earth, in sufficient quantity to be worth working." It is much to be wished that Government would institute inquiries into this important question—that boring rods should be used under the direction of an experienced person on such places as may be deemed most likely, from the occurrence of those rocks, which are generally found near the carboniferous series, to yield this most important mineral.

[To be continued in next week's Mining Journal.]

NOUVELLE MONTAGNE ZINC MINING COMPANY.

We have, at various times, noticed in this Journal the rapid progress being made in the manufacture of zinc, particularly from the abundant mines of the Nouvelle Montagne Company in Belgium, and other parts, and the increasing demand for this valuable and most serviceable metal all over the north of the continent of Europe, France, Portugal, Spain, and Italy—throughout the United Kingdom, which annually imports a considerable quantity from this and other companies, not only for our own consumption, but for exportation to North and South America, the West Indies, Havana, the Brazil, Buenos Ayres, India, China, and other parts of the globe. At the general meeting, held on 30th Sept. last at Verviers, of the 3000 shares which constitute the company, 2350 were represented. According to the terms of the statutes, there was a secret scrutiny for the renewal of *commissaires*, or commissioners of management, for the second year. Those who are in office are—James Wyld, Esq.; Adolphe Simonis; Count de Damremont; Jules Maly, of Verviers; and the Chevalier de Sauvage, of the Court of Cassation of Belgium, president, who will continue as such till the usual general meeting, which is appointed to be held in Sept. next. The Government requiring, by the law, that the majority of the commissioners shall constantly reside in Belgium, Messrs. Fermin de Tastet and Magniaé, having voluntarily retired, two new Belgian managers have been named. We think we cannot do better than give the following extract of the commissioners' report for the year 1844-45, which was presented and read at the last general meeting—so that a comparison may be made with the one to be submitted this year, and that the progress of this well-conducted and prosperous company may be duly appreciated:—"After having examined, with the most scrupulous attention, the returns and account-books for 1844-45, we have been satisfied with their correctness. The order and clearness which everywhere exists, is not only honourable to the administration, or committee, but also the chairman, who, independently of the direction of three establishments, situated at rather a great distance, has been necessitated to superintend the building works now going on, and of vast importance, simultaneously at Engis, Prayon, and Verviers. Notwithstanding this, gentlemen, our investigation has not shown us any irregularity in the accounts. We have seen everywhere exist the greatest economy in the building works, as well as all the works in general. It was, above all, in the works of discovery, where rigidity was requisite; and we have been enabled to convince ourselves, by several visits made during the year by one of us, that these undertakings have been carried on with the greatest economy. In the working of the mines also nothing has been spared to consolidate the galleries, and every thing is well arranged to facilitate the labour of the miners. We have directed our special attention to the examining of the general expenses, and we have not found any but what were useful and necessary. The *personnel*, or officials, in the different departments, including the conductors of works, and even the salary of the director, do not exceed the sum of 9154. 5s.; and, notwithstanding, they have to give an account of a large quantity of plans, and other extraordinary works, occasioned by the new buildings going on. We have seen, gentlemen, in the report of the managing director, that the account-books closed on the 31st of May in this year, and approved of by the administrator, present a balance in favour of the company of 120,804. 4s. being an increase on the year 1844 of 804. 5s. It was to this balance sheet of accounts we particularly directed our attention,—and, in consequence, we have ascertained with the greatest care, that nothing in the social balance has been estimated higher than its real value. We here see, that instead of exaggerating the prosperous position of the company, the board of management has evinced the greatest reserve in making known all our resources, leaving for the future the opportunity of showing their extent. The immovable goods, or real estate, have been estimated, according to the inventory of June, 1844, and the increase which exists, arises from the purchases made since that period—purchases which were absolutely indispensable at the establishment of Engis. In the valuation given of the preparatory works and discovery, the director has deducted from the expenses the profits arising out of the different ores extracted from those works. We particularly mention the works of discovery of Dos, which had already produced, on 31st of May, iron ore to the amount of at least 80t., which demonstrated a great metallurgic richness, of which no account has been taken in the estimation made in the returns. Since that period, the bed of calamine of Dos has assumed most gigantic dimensions,—as already, on the 31st of August, it had an acknowledged superface in extent of at least seven times that of Mallieu, without then having arrived at its limits, whether it be east or west; and the calamine, which is found in great abundance for some time past in the western part of the works, is of the very first quality. The galleries of discovery or exploration are, however, made at a much higher level than that at which this description of ore is generally found. We consider we ought to draw attention to the fact, that in the upper level of this bed (the only one which at present is worked at Engis, and has supplied the smelting furnaces of Prayon), the ore is inferior in quality to that which is found at the level of the bottom of the shaft—which, added to the distance the mines of Prayon are situated from those of Engis, is one of the causes of the increase of price in the manufacture of zinc up to the present day. Notwithstanding, the yield obtained was from 23 to 25 per cent, which has authorised the director in a measure to hold out the promise of a return of 27 per cent, when he can work on the ores of a superior quality, which will, doubtless, be found in the lower part of our mines. To revert to the returns, we have to remark, that the zinc and lead, either in warehouse, or on consignment, are estimated at the minimum sale price, after having deducted 10 per cent., and 2 per cent. commission; and that the ores in warehouse are rated at most, at one-half their real value, and the value of the new buildings is only an exact estimate, according to the expenses incurred up to the 31st May."

The following are the remarks of the committee of management on the principal point of the report:—"At Engis, there are in progress of construction, 80 zinc ovens, lead furnaces, and other extensive buildings, requisite for the company's works and employes—at Prayon, buildings for eight zinc furnaces, lead do., &c.—at Verviers, for exhausting machines, forges, &c. These purchases consist in several lots of ground and buildings adjacent to Engis, being more than three acres, and cost 1796l. On the 31st Aug. the exploring works of Dos had already shown, that the bed of calamine extended 900 feet, with an average breadth of 120 ft. At the commencement of Sept., they met with, in the works of Dos, a block of calamine, of several cubic metres. This ore was treated by itself in the new ovens of Prayon, and yielded 33 per cent. The drainage gallery commenced in the autumn of 1844, near Engis (and for carriage running from the river Meuse), which is to cut through the lode of Dos at the depth of 36 metres below the present works, which are themselves at 30 below the soil, is to be 3600 feet in length, and is expected to be entirely finished in 1846, as a large portion is completed. As soon as the buildings at Engis are constructed, and preserving the cost of the extracting of the ore, such as it is at present, and calculating on a return only of 25 per cent., the cost price may be said to be 1l. per 2 cwts. of zinc, and 16s. for lead,—having only had, up to this time, for the manufacturing, four old zinc, and one old lead furnace; and not being able to employ the flattening machine of Prayon, but according to the confined proportion of the production of metal. The quantities, therefore, manufactured in the course of last year were only 68 tons of zinc in plate, 125 do. in sheet, and 67 of lead in bars, which produced a profit, although trifling, of 2200l. In casting a glance at the future prospects of the company, it will be seen that there are already four ovens constructed on the same model as those of Engis, in full work at Prayon, and 20 similar ones will soon be in full fire at Engis, in the first months of next year, and 20 other ovens will be in operation towards the end of May,—making a total of 60 ovens at Engis, and eight at Prayon, in full work; and that, by the end of 1846, everything now building will be completed, steam-engines, ovens, and every construction—when the directory will be able to give the greatest extension to the operations, works, and manufactures, of the Nouvelle Montagne, as announced on the formation of the society. Hitherto, the ores worked have been of an inferior quality, labouring under every disadvantage; and notwithstanding these drawbacks, and the trifling quantity obtained, they have realised a profit of 2200l.: for the future, on the contrary, the company will have at its disposal, besides the eight new ovens of Prayon, 80 others on the same model at Engis, on the very spot where the ore is extracted, which will not fail to yield from 28 to 30 per cent., instead of only 23 to 25, and a great economy in fuel, as coal is found in sufficient abundance in the mines of Engis, where it is worked in the same large gallery as that of calamine, and has been acknowledged as superior to any other for reducing the ore. A letter from the director announces, that the calamine from Dos yielded at the rate of 33 per cent. in the new ovens at Prayon.

Original Correspondence.

THE LEAD TRADE.

SIR.—We have frequently observed important intimations in your Journal as to the value of lead ore, and lead in general; but, latterly, you hardly seem to have been well informed, or you would have communicated the fact, that both are greatly fallen in price. Even last week, a Government contract was taken at a price little, if any, above 17l. per ton. Lead has also been offered, in the stream of the Thames, for the same price, with a discount for cash. The celebrated knight, who, like a certain turf-lord, had determined to be premier in the lead trade, has fallen completely into the rear—being quite eclipsed by the steady smelters, whose ruin he had predicted, by the application of his talent and credit. For the Cornish ores this knight does not now bid at all, as the smelting trade is getting into its old regular course: we are, however, aware that, at this time, there are considerable importations of lead from Spain and America, and ore from all parts, even those most distant, so that we fear there will be more of both lead and silver than the market can take at the present prices; and should be glad to know, through any of your valuable correspondents, to what price it may reasonably be expected lead can fall, in order that we, as miners, may have some guide in our proceedings, which will very much oblige your regular readers.—A COMPANY OF MINERS: London, June 10.

STRUVE'S MINE VENTILATOR.

SIR.—The patent mine ventilator of Mr. Struvé, as described in last week's *Mining Journal*, for clearing coal mines of fire damp, is a most wonderful and important discovery, if practicable. I suppose the idea was taken from the atmospheric railroad tube and exhausting engines; what instructive lessons are taught by railroad making—they make engineers, and engineers make railroads! But I would just ask the patentee of this mine exhauster, has he ever put it in practice? has he had it at work on any of the numerous fiery coal mines in the Swansea district of which he is the consulting engineer? and does it effect what he assumes for it? If not, I think he will find that, however pretty, diagrams and descriptions may appear on paper, coal and other mine proprietors will require to see a little practical effect, before they adopt every wild scientific whim. If Mr. Struvé will inform me, where his machine may be seen at work; and, if not yet erected, when and at what mine it will be ready for action, probably a few bottles and underground agents, with myself among the number, will attend and learn how to act—as I do think it is wrong to accuse us of cupidity, while the fault arises from our ignorance, and we are doing all we know how to do.—T. DRAKE: Blaenavon, June 8.

DR. DRAKE'S IGNITION ENGINE.

SIR.—Aware of your general desire to lay before your readers descriptions of scientific discoveries, and being anxious to introduce one of mine to public notice, I forward you some particulars relating to my discovery of a new motive power, the insertion of which, I hope, you will allow.

I may promise, that I had under construction, at Cincinnati, an engine of large size, for the purpose of testing the invention: much delay, however, took place in its erection; and, although imperfect, it displayed great power, estimated at over 40 horses, and answered the purpose of fully sustaining the promise of the model. Owing to local causes and difficulties, I was induced to suspend its present construction; but being anxious for its introduction into Europe, particularly England, I am induced to draw the readers of your valuable Journal thereto, by giving such a general description as will render a knowledge of its principles easily attainable.

For some years past my attention has been applied to the construction of an engine, by means of which the whole exploding force of carburetted hydrogen (coal, &c.) gas and air in combustion might be directly obtained and economically applied to the general purposes of mechanical motion. In this effort I have been fully successful; and, in the latter part of 1843, publicly exhibited at work for several weeks a model engine of two horses power. This machine attracted much attention at the time; and the favourable mention made through the public prints, obtained the notice of the Editor of the *Mining Journal*, who honoured me with a letter of inquiry. Owing to arrangements I was making for more extended trial of the principle, and the want of patented protection abroad, this information I did not feel at liberty to communicate; and inasmuch as the most important feature of the invention—the method of igniting promptly, permanently, and with simplicity, the mixed gases, while confined behind a close-fitting piston, and so obtaining the full force of the explosion, or expansion—was my secret (the result of years of chemical investigation), and could be so kept, prudence dictated that course. These further trials have matured and perfected the original (somewhat imperfect) invention; and I have had the force operating through a machine of nearly 50-horse power having a cylinder of 16 inches diameter, with a stroke of 6 feet; but this large engine might have been better adapted, and its use was but temporary: it answered, however, the purpose of fully sustaining the promise of the model. In place of gas, the vapours of liquid carburets, such as oil or spirits of turpentine, naphtha, &c., were occasionally used, and are perfectly available; but the gas is better adapted, and is found to be (when manufactured for the purpose) more economical, reducing the cost of running an engine below that of steam.

The question may naturally suggest itself—why has not this engine been introduced into use, if it be what is claimed? and after answering this query, I will state its various advantages, in a mechanical point of view, and my motive in addressing you, sir. In the first place, an improvement so radical as this must meet scepticism and opposition in any society, and much more in this country, where novelties are regarded more as curiosities than in an utilitarian view, unless previously well tested and established. Secondly, the manufacture and use of gas is but limited, and confined to the large cities, where it is sold at prices ranging from \$6 to \$34 per 1000 cubic feet, or from about 27s. to 16s., and, consequently, at a price too high for economical use. And again, the expense incurred in my experiments, and in building engines, made it prudent to lay the matter aside for some time, and devote my labours to more directly profitable pursuits. In Dr. Neil Arnott's *Elements of Physics and Natural Philosophy*, part 4, § heat, while treating of the expansion of air, he describes the gas-vacuum engine of Mr. Brown, and then so expresses himself—"It is a question which the author thinks will one day be answered in the affirmative, whether nearly the whole force of exploding gas may not be converted into a calmly working power, producing from a given expenditure 10 times (or more) the effect of the vacuum engine described, and, therefore, an effect more than equal to that of a steam-engine incurring the same expense." This is what I have effected; but in an engine, presenting the general features of the reciprocating steam-engine, and entirely differing from the plan hinted by Dr. Arnott, to whose book and arguments I would respectfully call your attention. Now, the limits of explosion of ordinary coal gas, when mixed with atmospheric air, range from about 5 to 14 parts of air to 1 of gas—the maximum force, making an expansion or store of at least 10 atmospheres, being obtained from a mixture of 8 to 10 parts of air, to 1 (according to quality) of gas, or the proportions for perfect combustion. This being the greatest pressure, by reducing the supply of gas, the heat (and, consequently, the expansion) is likewise reduced; and when the limits of combustion are reached, the pressure from the force of explosion is barely adequate to the slow propulsion of the engine; and again, the speed is increased, almost instantaneously, by an additional supply of the combustible. The valves of my engine are sliding, worked by a cam, so constructed as to cut off at any determined point—one-sixth of the stroke being found the most effective in the trials made with the gas of this country. But the most important feature of the invention is the apparatus for the firing of the gas, altogether differing from any method ever suggested, being not a lamp, or electric, or galvanic, but an arrangement adjusted to the valve seat, occupying but a small space, permanent, and the action, when once commenced, sustained through the motion of the engine. From this distinguishing feature of the machine, it has been named the *ignition engine*. This ignition apparatus, perfectly simple and durable, is always ready for instant service; and the engine, when using gas, may be put in operation within five minutes: in fact, the model has been started repeatedly within the minute.

What I have said, with the few papers which I shall enclose, may give an idea of the general character and principle of the invention, and shall candidly state what has suggested itself to me with regard to its application to the purposes proposed for Mr. Parsey's arrangement. In the condensation of air by means of the force pump, it is well established in natural philosophy, that the sudden compression of air, by which its atoms are brought nearer together, causes a great increase of resistance by the repellant power of the before latent heat, thus expelled—so that it requires a pressure of much more than two atmospheres to force the air into our-

half of its original bulk,—and the probability is that, as the condensation is carried to a greater extent, the resistance is proportionally increased, requiring more initial force for its ultimate condensation than that given by calculation—consequently, if the resistance could be reduced by one-half, so much would be the saving. Again, could a method be suggested by which the necessity for several stations for supplying the air-vessels be obviated, great economy would be manifest. It is proposed to condense the air of Parsey's engine from 70 to 140 atmospheres—a pressure, in my humble opinion, based on some practical knowledge that will be found attended with difficulties when attempted for general use, and on a large scale: the leakage of reservoirs from straining, and the nature of the material used, together with the mishaps of pumps and machinery working under so great a force, may present serious difficulties,—but this is only an opinion respectfully presented. This amount of stored force it is proposed to recruit at stages of 30 miles. Now, we will suppose that, in the place of atmospheric air, gas is substituted, to be used at atmospheric pressure, by its appropriate engine; and for the enormous pressure of 100 lbs., and upwards, we make 50 atmospheres, or 750 lbs. to the square inch, the maximum. This at once removes some objections that may be found to be serious, and that this supply of atmospheric air, and used by the engine under 60 lbs. pressure, will carry the train 20 miles. It has been demonstrated, that nine volumes of atmospheric air (to be taken from the atmosphere as wanted), when mixed with one volume of coal gas, forms a mixture which, when exploded, will give an initial force of 150 lbs. to the sq. inch, diminishing as the piston recedes before the expansion; and supposing the stroke carried out until this force is expended, the average power will be 75 lbs.; and I would again suggest a reference to Dr. Arnott's *Physics* for an illustration—adding that the expansion in my engine appeared to sustain his views, the force operating without noise, but calmly, and with the regularity and general appearance of the steam-engine; the products of combustion being fixed gases (with the exception of a very small quantity of water), and being permanently elastic, occupying very nearly the space when cooled as the original volumes, and, when heated, acting expansively. Having seen that one volume of gas, when mixed with the proper quantity of air, will represent 10 volumes of air in the reservoir, should it alone be used, we receive it in the cylinder with nine parts of air admitted from the atmosphere, fire it, and have it expanded tenfold,—or, an increase of nearly one hundred-fold over the amount in the reservoir, producing a force or power fully under control, diminished at pleasure, and with sufficiently large area of piston, capable of running or driving a locomotive 100 miles, or 10 per hour, as may be desired. To be fully explicit and understood—Suppose the air condensed to the contemplated working pressure, 60 lbs. above the pressure of the atmosphere, to be received into a cylinder 30 inches long, cut off at half stroke, and allowed to act expansively,—fifteen inches, or one half of the cylinder, at 60 lbs., would contain five volumes of air in one, which, if freed from condensation, would occupy two and half times of such a cylinder, or 75 inches. If, in using gas and air mixed, it is requisite to fill only one-sixth of the cylinder, or five inches,—and if, of this mixture, one-tenth part only be gas, at a pressure balancing the atmosphere, we have half an inch of gas in place of 75 inches of air from the reservoir, or one part to 150. The quantity of gas consumed, however, to sustain a certain force, would vary with the size of the cylinder, &c.,—a large diameter allowing of a shorter cut off, and better economy of gas, than a smaller, owing to the more rapid cooling, &c., in the latter; and we may assume 100 to one, as covering fully any extreme, and answering the purpose of illustration. But allowing liberally for losses from leakage, cooling, &c., we will assume the average available force to be only one-half that stated by Dr. Arnott, and sustained by my experiments,—and we will find that, should the calculations made as to the capacity of Parsey's contemplated reservoirs, &c., be correct, and the air at 50 atmospheres make a stage of only 15 miles, the store of gas under the same pressure ought to carry its train about 750 miles. Any calculation can be only an approximation,—and the main question to be determined would be, the relative economy; and it is confidently believed, that the cost of manufacturing the gas would be less than that of sustaining the additional stations, and the increased strength, &c., of the reservoirs, &c. The perfect availability of the powers derived from the expansive combustion of the gas and air, the ability of instantly starting the engine from a state of rest, with the most perfect and easy control over the same, has been fully demonstrated and sustained, its operations witnessed by hundreds, and nothing but the difficulties of working against prejudice, and want of scientific enterprise as yet in this country, has prevented my carrying into practical use some such plan as above shadowed out on our railroads. I have been much struck with the general arrangement and individual merits of Parsey's plans; I have very frankly laid my views before you. Should you wish to make further inquiries, I think I can refer you to an English gentleman, an engineer of standing, who is now in England, —and who, after witnessing repeatedly the operation of my engine, was pleased to express himself in flattering terms. This is Mr. Paul R. Hodge, whose address is in the care of Mr. Chas. Hodge, Torquay, Devonshire, South Britain. In conclusion I shall state, that I should be willing to enter into arrangements on the most liberal terms, and would transfer an equal right to my invention for railroad purposes, and the one-fourth for all general purposes, in Europe, for the consideration that the costs of procuring patents, and introducing into use, be incurred by the party entering into the arrangement, with the payment to myself of 500l. for the purpose of defraying my expenses to and in England, while engaged in the proper construction of the first engines. This sum to be secured to me in this country. There are probably many points which I have not touched upon, which you would like to have elucidated, and in some matters I may have been prolix; but you will perceive that my remarks are submitted without much method, and are intended more as furnishing general ideas on a subject which I trust may prove of mutual interest. Should you feel interested enough to make further inquiries, I beg you will not hesitate to make them most fully, and so far as lies in my power they shall be frankly and fully answered.—ALFRED DRAKE: Philadelphia, April 23.

THE ACCIDENT ON THE BRANDLING JUNCTION RAILWAY.

SIR.—One of your papers has been forwarded to me, containing some observations reflecting upon me, relative to the crooked line of the Brandling Junction Railway, at the west end of South Shields; I perfectly agree with the writer, that in regard to this matter the saddle should be put upon the right horse. I request you will insert the following statement in your paper, as a reply to the letter of the "Disinterested One," which I should have answered sooner, but had to obtain the necessary plans and documents; and you will oblige me by allowing them to remain in your office for a short time, for the satisfaction of any person who may wish to see them:—In the month of January, 1838, having heard that the Brandling Junction Railway Company intended to make their line of way through my land in two places, near the west end of South Shields, as laid down in a plan of the intended Slake Docks; and in February of that year I met Mr. Brandling, the managing director of the newly-incorporated company, and inquired if that was the case? when that gentleman said that they would probably require to come through one part (that on which the present line of way passes); but as to the other (the straight line), it was never contemplated by the company, and that it was a mistake of Mr. Wood's, and, at all events, they would come to treat with me if they did want any of my ground. They, subsequently, took possession of it, without giving me any previous notice, and I have not got any compensation to this day. In the year 1840, the directors of the company commissioned Mr. Clay to treat with me, for the purchase of some ground at Laygate; but the terms of negotiating, to which that gentleman was restricted, were such, that he said he could not think of treating any person in the unhandsome way they wished, and that, if they would leave the matter to him, he thought he could make a bargain with me in a few minutes. In that opinion I fully concur with Mr. Clay. He, of course, declined acting for the company, who employed Mr. Stoddart to wait on me with a plan in August, 1840, to inquire if I would dispose of the land in question. My reply was, that I had made arrangements for another mode of employing it, but had no objection to sell it to the company—stating at the time, that as I had not obtained any compensation for the former trespass in 1838, it would be desirable to have that settled at the same time, in which Mr. Stoddart agreed, and said he would obtain power to settle that also—I heard no more of Mr. Stoddart.

Mr. Nicholas Wood, engineer to the company, then came to me to negotiate for the land, and, in reply to my preliminary questions, admitted that the directors were a divided body, and that there were some of them they could not trust, and that he represented all parties. In reply to Mr. Wood's question, as to price, I said that it was the duty of a person correcting the property of another, to make an offer for it; this Mr. Wood declined to do—saying that the company had made many dear purchases, and they must now have a cheap one. After negotiating for some time with Mr. Wood, and receiving various letters from him, I at last wrote

him that, if he would make me an offer, I would say whether, or not, I would accept it, and, if not, I would be prepared to say what sum I would take. We afterwards met at the Laygate, when, instead of the ground being treated for, as contained in the first plan, a new one was laid before me, with two or three different lines—all of them crooked—for which I, of course, was not prepared to treat at the moment. In conclusion, I now state that no price was offered to me for the land at Laygate, nor any sum named by me; and the observation contained in the *Reply of the Directors of the Brandling Junction Railway to the Report of the Committee of Investigation* is entirely false, as relates to the obstacle in obtaining a straight line of railway to the station at the Market-place; and an inspection of the plan would warrant the opinion of the investigating committee, and the truth of the general report, that they never intended adopting the straight line.—WILLIAM WALLIS: London, June 10.

ON THE COMPOSITION OF THE FIRE DAMP OF THE NEWCASTLE COAL MINES.

BY THOMAS GRAHAM, ESQ., F.R.S., ETC.

Some years ago, I examined the gas of these mines, with the same result as Dr. Henry, Davy, and Dr. Turner, had previously obtained—namely: that it contains no other combustible ingredient than light carburetted hydrogen. But the analysis of the gas of the coal mines in Germany, subsequently published, showing the presence of other gases, particularly of olefiant gas, has rendered a new examination of the gas of the English mines desirable. The gases were—1, from a seam, named the five quarter seam, in the Gateshead Colliery, where the gas is collected as it issues, and used for lighting the mine.—2, the gas of Hebburn Colliery, which issues from a bore let down into the Bensham seam—a seam of coal which is highly charged with gas, and has been the cause of many accidents; and, 3, gas from Killingworth Colliery, in the neighbourhood of Jarrow, where the last great explosion occurred.—This last gas issues from a fissure in a stratum of sandstone, and has been kept uninterruptedly burning, as the means of lighting the horse-road in the mine, for upwards of 10 years, without any sensible diminution in its quality. The gases were collected personally by my friend Mr. J. Hutchinson, with every requisite precaution to insure their purity, and prevent admixture of atmospheric air. The usual eudiometrical process of firing the gases with oxygen, was sufficient to prove that they all consisted of light carburetted hydrogen, with the exception of a few per cent. The results were as follows:—

Gateshead Gas.—Specific gravity, 0.5802.—Carburetted hydrogen, 94.2; nitrogen, 4.5; oxygen, 1.3—100.0. The density of such a mixture is, by calculation, 0.5813.

Killingworth Gas.—Specific gravity, 0.6306.—Carburetted hydrogen, 82.5; nitrogen, 16.5; oxygen, 1.0—100.0.

The theoretical density of this gas, deduced from its composition, is 0.6308. The Hebburn gas was of specific gravity 0.6327. Seventy-nine measures of the Killingworth gas, mixed with an equal volume of chlorine, left in the dark for 18 hours, and afterwards washed with alkali, were reduced to 75 measures; from which the presence of four measures of olefiant gas might be inferred; but in a comparative experiment made at the same time on 25.3 measures of pure gas of the acetates, mixed with an equal volume of chlorine, a contraction occurred of 1.3 measure—that is, in exactly the same proportion as with the fire damp. It was observed, that phosphorus remains strongly luminous in these gases, mixed with a little air—while the addition to them of $\frac{1}{10}$ th part of olefiant gas, or even a smaller proportion of the volatile hydrocarbon vapours, destroyed this property. Olefiant gas itself, and all the allied hydrocarbons were thus excluded. Another property of pure light carburetted hydrogen, observed by myself, enabled me to exclude other combustible gases—namely: that the former gas is capable of entirely resisting the oxidizing action of platinum black, and yet permits other gases to be oxidized which are mixed with it even in the smallest proportion—such as carbonic oxide and hydrogen, the first slowly and the last very rapidly; air or oxygen gas being, of course, also present in the mixture. Now, platinum black had not the smallest action on a mixture of the gas from the mines with air. No moisture appeared or sensible contraction, and no trace of carbonic acid could be discovered after a protracted contact of 24 hours; while, with the addition of 1 per cent. of hydrogen, the first effects were conspicuously evident in three minutes—and with the same proportion of carbonic oxide, the gas became capable of affecting lime water in half-an-hour. These experiments were repeated upon each of the three specimens of fire damp.

Potassium fused in the fire damp did not become covered with the green fusible compound of carbonic oxide, nor occasion any contraction. Indeed, however carefully the heat was applied to the potassium by means of an oil-bath, a slight permanent expansion always ensued. The same thing occurred in pure gas of the acetates. It appeared that potassium could not be heated above 300° Fahrenheit in pure carburetted hydrogen, without causing a decomposition and the evolution of free hydrogen gas. The gas was also inodorous, and clearly contained no appreciable quantity of any other combustible gas than light carburetted hydrogen. The only additional matters present were nitrogen and oxygen; the specimen collected in the most favourable circumstances for the exclusion of atmospheric air—namely: that from the Bensham seam, still containing 0.6 per cent. of oxygen. The gases also contained no carbonic acid. It is worthy of observation, that nothing oxidizable at the temperature of the air is found in a volatile state associated with the perfect coal of the Newcastle beds. The remarkable absence of oxidizability in light carburetted hydrogen appears to have preserved that alone of all the combustible gases original evolved in the formation of coal, and which are still found accompanying the imperfect lignite coal of Germany, of which the gas has been examined. This fact is of geological interest, as it proves that an almost indefinitely protracted oxidizing action of the air must be taken into account in the formation of coal; air finding a gradual access through the thickest beds of superimposed strata, whether these strata be in a dry or humid state.

In regard to measures for preventing the explosion of the gas in coal mines, and of mitigating the effects of such accidents, I confine myself to two suggestions. The first has reference to the length of time which the fire damp, from its lightness, continues near the roof, without mixing uniformly with the air circulating through the workings. It was found that a glass jar, of 6 in. in length, and 1 in. in diameter, filled with fire damp, and left open with its mouth downwards, continued to retain an explosive mixture for 20 minutes. Now, it is very desirable that the fire damp should be mingled as soon as possible with the whole circulating stream of air, as beyond a certain degree of dilution it ceases to be explosive. Mr. Buddle has stated, "That immediately to the leeward of a blower, though for a considerable way the current may be highly explosive, it often happens that, after it has travelled a greater distance in the air course, it becomes perfectly blended and mixed with the air, so that we can go into it with candles; hence, before we had the use of the Davy lamp, we intentionally made 'long runs,' for the purpose of mixing the air." It is recommended that means be taken to promote an early intermixture of the fire damp and air; the smallest force is sufficient for this purpose; as a downward velocity of a few inches in the second will bring the light gas from the roof to the floor. The circulating stream might be agitated most easily by a light portable wheel, with vanes, turned by a boy, and so placed as to impel the air in the direction of the ventilation, and not to impede the draft. The gas at the roof undoubtedly often acts as an explosive train, conveying the combustion to a great distance through the mine—while its continuity would be broken by such mixing, and an explosion, when it occurred, be confined within narrower limits.—Secondly, no effective means exist for securing the miners after the occurrence of an explosion, although a large proportion of the deaths is not occasioned by fire, or injuries from the force of the explosion, but from suffocation by the after damp, or carbonic acid gas, which diffuses itself afterwards through all parts of the mine. It is suggested that a cast-iron pipe, from 8 to 12 in. in diameter, be permanently fixed in every shaft, with blowing apparatus, above, by which air could be thrown down, and the shaft itself immediately ventilated after the occurrence of an explosion. It is also desirable that, by means of fixed or flexible tubes, this auxiliary circulation should be further extended, and carried as far as practicable into the workings.

KEEP COOL.—Next to the visit of Ibrahim Pacha, we consider the arrival of a cargo of 600 tons of Wenham Lake ice the most opportune and important event of the week; and, especially as the thermometer ranges at 86° in the shade at the moment we are writing. The intense heat of the American summer appears to have followed the icy adventure, as the albatross and Cape pigeon follow ships on their voyages round the Cape of Good Hope and Cape Horn. This is the largest cargo of ice, we understand, which has ever entered the port of London. The lovers of this modern and sanitary luxury may now rusticate, as it were, in the shades of Wenham Lake, without the discomfort and expense of a voyage across the Atlantic.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

TUESDAY.....Shropshire Mineral Railway—London Tavern, at Twelve for One.
Hayle Railway—offices, at half-past Twelve.
Wexford, Waterford, and Valentia Railway—London Tavern, at Two.
MONDAY.....Midland and Eastern Counties Railway—London Tavern, at One.
TUESDAY.....Tolchester and Bedford Railway—London Tavern, at One.
WEDNESDAY.....New Delabole Slate Quarry Company—at Messrs. Bullock and Liscombe's
offices, 35, Lincoln's Inn-fields, at Two.
Nesque Marine Insurance Company, office, at Twelve.
Gravesend and Rochester Railway—George and Vulture Tavern, at One.
THURSDAY.....Columbian Mining Association—office, at Two.
United Hills Mining Company—office, at One.
Exeter and Exmouth Railway—London Tavern, at Ten.
FRIDAY.....Richmond Railway—London Tavern, at Twelve.
National Reversionary Investment Company—office, at Two.
SATURDAY.....Cockermouth and Workington Railway—office, at Eleven.
Newport, Aberystwyth, and Hereford Railway—offices, Hereford, Twelve.
Monmouthshire Railway—offices, at Eleven.
Isle of Man Railway—Hall of Commerce, at One.

[The meetings of Mining Companies are inserted among the Mining Intelligence.]

BANK OF BRITISH NORTH AMERICA.

The yearly general meeting of this company was held at the establishment, in St. Helen's-place, Bishopsgate-street, on Tuesday.

ALEXANDER GILLESPIE, Esq., presided.

The SECRETARY read the advertisement calling the meeting, and the report of the directors, which was as follows:—

Report of the Directors of the Bank of British North America to the Proprietors, at their Tenth Yearly General Meeting.

At the last annual meeting it was stated by the court of directors, that the legitimate demand for banking accommodation in the North American colonies, had caused the entire capital of the bank to be engaged in active and profitable employment; and they have now the pleasure to report, that, throughout the year 1845, the business has continued to exhibit a steady and satisfactory improvement. The Hamilton branch, the opening of which was reported last year, has become an important member of the institution; and, in addition to the agencies at Port Hope and Bytown—noticed in the last report—the directors have been induced, by the increasing commercial importance of Canada West, to open similar establishments at Brantford and Dundas. While, however, they have thus availed themselves of the opportunities presented for extending the profitable operations of the bank, the directors have not failed to improve upon the managers and local boards of the different branches the importance of acting with great prudence, so as to give no encouragement to excessive speculation; this having become the more necessary, from the changes in the tariff and in the corn laws, affecting the trade of the North American colonies, proposed to Parliament by her Majesty's Ministers.

In January last, Joseph Fidler Ready, then a teller at the Montreal branch, absconded, having embezzled a considerable amount of the bank's funds. The prompt measures taken by the inspector and the manager of the branch led to his speedy apprehension, and to the recovery of the stolen money. The loss to the bank by this occurrence will be about 3900*l.* sterling; and a sum sufficient to cover this loss, though incurred at the commencement of the present year, has been deducted from the profits of the bank for the last year, in the account now presented. The directors have only further to submit the usual annual statement of the affairs of the bank, and to add, that a half-yearly dividend, at the rate of 5 per cent. per annum, will become payable on the 6th July next. The amount of undivided net profit to Dec. 31, 1844, was.....£30,439 14 1

The net profit for the year 1845, after deduction of all current charges, and providing for all bad and doubtful debts, was.....56,293 16 0

Total.....£86,733 10 1

From which is to be taken the amount of dividends paid—

At Midsummer, 1845.....£10,000 0 0

At Christmas, 1845.....£10,000 0 0

Leaving amount of undivided net profit to Dec. 31, 1845.....£66,733 10 1

The CHAIRMAN did not think it required him to go into any lengthened observations upon the report. He should have much pleasure in answering any questions which might be put—so far, of course, as would be consistent with the interest of the bank; if not, he daresay the proprietors would not wish him to enter upon the subject. (Hear, hear.) He would just remark, that it was now 10 years since the bank was established—during which period, they had gone through very many and peculiar difficulties. At the very time that the shares were issued, a panic and crisis took place amongst the American houses, which was followed by very severe pecuniary distress in the United States, and by a disarrangement of our currency in Canada. This shock had hardly settled, when the rebellion in Canada broke out, succeeded by a second panic, which made a considerable impression on our monetary relations with the colony; and shortly afterwards the directors were compelled, by the terms of the charter, to sacrifice almost the whole of the rest, which prevented them one half year from paying any dividend. However, he could now say, that they had got over these difficulties; and if they did not offer an increased dividend, they could certainly show a better situation of affairs than they had hitherto done. (Hear, hear.) The net profits upon the capital employed, had it not been for the unfortunate robbery noticed in the report, might have been 6 per cent. on the whole capital. (Hear, hear.) The accounts received after the close of the year were exceedingly satisfactory, exhibiting a large increase of valuable and safe business. He could best convey that to the minds of the proprietors, by comparing the first week in May, 1846, with the first week in May, 1845—the amounts being specified in Halifax currency. In May, 1845, the deposits on current account were 174,000*l.*; in May, 1846, 233,000*l.* (Hear, hear.) The circulation of all the branches was 240,000*l.* in 1845; and in May, 1846, it amounted to 373,000*l.* The interest account was 21,000*l.* in May, 1845; and in May, 1846, 30,300*l.*—showing an increase of about 9000*l.* already in this item. The bills under discount were 1,010,000*l.*, and now they were 1,432,000*l.* The directors had uniformly ordered the managers to be cautious in the nature of the business undertaken; and this had been impressed upon them more particularly in reference to what had taken place with respect to the corn laws, which no doubt would, to some extent, be disadvantageous to the interest of the colonies; but still there was no fear of good business not coming to them; and, if they acted with so much caution, it was only to secure a fair profit, and sure returns, which they preferred to larger profits, got only through carrying on an irregular and dangerous sort of business. (Hear, hear.)

Mr. LEWIS asked, if no security had been taken for the party who had absconded?—The CHAIRMAN said, that security had been taken for every officer of the establishment. This party had given security which had been recovered.—A PROPRIETOR asked the amount of the security?—The CHAIRMAN replied, 1500*l.*

Mr. LEWIS thought it a very trifling sum.—The CHAIRMAN said it was a large amount, considering the salary that was given, which was only about 2000*l.* a year. The sum abstracted was nearly 6000*l.*, of which about 1500*l.* was recovered, and an equal amount obtained from his security—leaving a balance of about 3000*l.*; this loss was taken from the profit of the past year, although it did not occur until the commencement of the present year.—A PROPRIETOR asked, if there was any reserve fund to meet these casualties? The CHAIRMAN said, there was a fund which they carried off from the profit and loss account to cover all losses, from which this 3000*l.* was met. On reference to the report of last year, they would find they had a rest of 30,439*l.*; in the year 1844, they paid a dividend of only 4 per cent. They had paid since then—he meant in 1845—two dividends, at the rate of 5 per cent. amounting to 50,000*l.*; after which, the rest was still increased to 36,700*l.*, instead of being 30,400*l.* (Hear, hear.)

Mr. LEWIS thought, if they had got a more responsible person, and given a better salary, they would not have lost that 6000*l.*

The CHAIRMAN said, the delinquent was respectably connected; his father was, he believed, colonel in the army; they had most satisfactory references respecting him, and he only held the situation of teller. (Hear, hear.) If blame attached anywhere, it was to the fact, that, during the last year, the staff of the Montreal branch had not been sufficient, considering the recent great increase of business; but they had now increased the number of clerks, and had taken every proper means, by providing the most efficient system of check, to render any similar occurrence for the future very improbable. (Hear, hear.)

Capt. KELLY was much obliged to the chairman for his clear statement. He thought it impossible for a large concern like this, with a million of capital, to be worked without meeting with some kind of casualty; he thought the management of the directors had, on the whole, been most judicious.—The report was then adopted unanimously.

The CHAIRMAN said the next business was the election of three directors—namely: Henry Barwell, Esq., Sir Robert Campbell, Bart., and Robert Carter, Esq.—Each of these gentlemen were elected separately and unanimously.—Capt. KELLY then moved, and Mr. LEWIS seconded, a vote of thanks to the chairman and directors, for their efficient and able management of the company's affairs, which was carried with acclamation.—The meeting was then dissolved.

MAMMOTH IN SWITZERLAND.—In the excavations for the new road at Kaisersuhl (Aargau) the jawbone of a mammoth, in excellent preservation, was found in the chalk stratum.

Law Intelligence.

NON-LIABILITY OF ALLOTTEES—IMPORTANT DECISION.

COURT OF EXCHEQUER (Sittings in Banco)—JUNE 12.

WALSTON v. SPOTSWOOD.—This important case, which has formed subject of much discussion in the railway world, and to which the attention of the public has been for some weeks directed, was brought to a close at the sittings of the court yesterday. We have only space to render a brief abstract of the proceedings, which it will be seen involve a question affecting many individuals, who have readily lent themselves to the office of provisional committee men, and at the same time, will affect the distribution of capital, to the extent of some hundreds of thousands.

The LORD CHIEF BARON, at the sittings of the court, proceeded to give judgment in the above important case. His Lordship said that this was an action of assumption, brought to recover a sum of money, had and received; to the first count the defendant pleaded non assumption. The cause was tried before him (the Lord Chief Baron) on the 22d of February last, and was brought against the defendant as one of the provisional committee of the Direct Birmingham and Oxford Railway. The company was provisionally registered under the 7th and 8th Victoria, the capital was to be 2,000,000*l.*, divided into 80,000 shares of 25*l.* each, the deposit to be 2*l.* 12*s.* 6*d.* On the 7th of October, 1845, the plaintiff applied for shares, and on the 18th of October she received her letter of allotment; it was for 30 shares, and on which she paid a deposit of the sum of 78*l.* 15*s.* This letter was to have been exchanged for scrip. On the 27th of October the plaintiff applied for the scrip, when she was informed that the issuing of the scrip would take place on the 6th of November. On the 12th the plaintiff applied again, when she was informed by the secretary that the company did not intend to issue any, and that the affairs of the company would be wound up, and the surplus, after payment of the expenses, would be returned. In consequence of public confidence in the share market being shaken, the deposits on only 4000 shares had been paid. On these grounds the plaintiff brought her action against the defendant, as one of the provisional committee. At the trial it was contended that the defendant was not liable. The jury, however, found a verdict for the plaintiff, leave being given for the defendant to move to enter a nonsuit if the court should be of opinion the plaintiff had not made her case. Mr. Martin, in the last term, obtained a rule nisi for a nonsuit or a new trial. As the whole matter had been very fully discussed, it would not be necessary to advert to the arguments of counsel, further than to say that the court is fully of opinion that the plaintiff is entitled to recover, and therefore on the count for money had and received, the verdict must be entered for the plaintiff, and for the defendant on the first count. It was argued by the defendant's counsel that there existed a quasi partnership, but such was not true, for there was no evidence or proof of that fact; and we are of opinion that no such partnership ever existed. With respect to the point, that the plaintiff had by her application for the scrip become identified with the company, we are of opinion that no scrip had ever been issued, for the scheme was an abortive one, and that it had failed before any allotment of scrip was made. With regard to the point raised, that the company was not at an end, the court is fully of opinion that the answer of the secretary, that the affairs of the company were about to be wound up, was sufficient evidence to go to the jury, and they found that the company was at an end; and we think the jury were well warranted in coming to that conclusion. The next consideration for the court, is the claim which was made for 2*s.* 6*d.* per share towards the defraying of the expenses of the company. Now, that money was for a specific purpose, and until the scheme was fully carried out, such a claim could not be maintained, and therefore the plaintiff is entitled to recover that part back also. The judgment of the court therefore is, that the writ on all the pleas is to be entered for the plaintiff, with the exception of the plea to the first count, which will be for the defendant.—The court was crowded to excess by parties connected with railways, who evidently appeared greatly disappointed at the decision.

SPEED AND POWER OF THE LOCOMOTIVE, THE "GREAT WESTERN."—We

noticed, in last week's Journal, the performance of a powerful new locomotive engine, built by the Great Western Railway Company, which, we are informed, is incorrect in several essential particulars. It is there stated, that the engine and tender weigh "50 tons," and that it was ascertained the engine could, with a load of 140 tons, travel at the average speed of 55 miles per hour. This is incorrect. The engine and tender, taking the average weight of the latter with her complement of water and coke over the whole distance run, weigh 43, and not 56, tons; and the average speed to and from Swindon, deducting time lost in stoppages, was 50, and not 55, miles per hour. Our notice states that the engine, without her water, weighs 36 tons, whereas it is, with water, 28½ tons only. Her maximum speed, with the 140 tons, on a falling gradient of 4*f.* per mile, was 57 miles per hour. But the trip in question was an experimental one, for the purpose of ascertaining how the engine would work with a heavy passenger load. It was found that the engine did not work at the required pressure; the blast pipe was therefore reduced, and she is now in very good working order. She has since carried the ordinary express trains to Exeter, 194 miles in 183 minutes, or at a rate of 63 miles per hour; but even this does not fairly show the vast capabilities of this extraordinary machine. Excluding the comparatively slow rate at which the train runs down the incline, and the loss of time in arriving at and leaving stations, the average rate of travelling will be from 63 to 69 miles per hour. On Thursday the express train, weighing 90 tons, and worked by the same engine, travelled from Didcot to Paddington, 53 miles, in 51 minutes—that is, from station to station. The speed between the 47th and 2d mile-posts averaged 70 miles per hour; and yet a few years since the world was unwilling to believe that 20 or 30 tons could be taken at 13 miles per hour by a locomotive. Learned men ridiculed the absurdity of the proposition. They lectured and wrote with great display of scientific knowledge about adhesion and the resistance of the wind, and demonstrated "by mathematical data" that it was absolutely impossible to reach a velocity of 20 miles an hour with 20 or 30 tons. Such is the correctness of human calculations, as proved in practice; and who shall say that even now we have arrived at the maximum safe speed of transit—already have we beaten the bird and the race-horse in speed, with enormous weight, and equalled the lightning's flash in transmitting intelligence; and science may have yet in store for us, materials, which will cause posterity to regard our present discoveries, as only the simple elements of knowledge.

TELEGRAPHIC COMMUNICATION BETWEEN FRANCE AND ENGLAND.—It was stated some time ago, that a submarine telegraph was to be laid down across the English Channel, by which an instantaneous communication could be made from coast to coast. The Lords Commissioners of the Admiralty, with a view of testing the practicability of this undertaking, have been pleased to approve of the projectors laying down a sub-marine telegraph across the harbour of Portsmouth, from the house of the admiral in the dockyard to the railway terminus at Gosport. In a few days after the experiment has been successfully tested at Portsmouth, the sub-marine telegraph will be laid down across the Straits of Dover, under the sanction of both English and French Governments.

M. Hallette was at Peckham on Wednesday, and superintended the working of the model for two hours. Several ladies and gentlemen were present, who expressed to the inventor the great gratification they had derived from the examination of the model, and the explanations given to them of the principles of his system. The simplicity of the longitudinal valve, and perfect contact throughout of the lips, were particularly admired; and the ease and rapidity of the motion of the piston carriage were highly commended. A gentleman attended on behalf of the Minister of Public Works in Russia, to examine the apparatus. He expressed himself perfectly satisfied with all that he saw, and reported immediately to St. Petersburg. The experiments at Peckham would be resumed this day (Saturday), at two o'clock, when M. Hallette will again be present; the members of the Institution of Civil Engineers have been invited. The experiments will be of a searching character, and an interesting discussion may be expected.

SOUTH DEVON RAILWAY.—A numerously attended special general meeting of the shareholders was held at Elliott's Royal Hotel, Plymouth, on the 6th inst.—The chair was taken by THOMAS GILL, Esq., M.P., the chairman of the company. He stated that the meeting had been called in compliance with the sessional order of the Legislature, known as Sir Robert Peel's Act, by which it was provided that all bills, to be carried forward in the present session of Parliament, should be brought before the proprietary for reconsideration. In respect to the meeting, the directors had received letters of proxy from persons holding shares to the amount of 400,000*l.*, which alone was sufficient to give the required affirmation, to which affirmation he did not expect that a single shareholder would object, as all they were asked to do, was only to signify their approval of what they had already assented to.—Mr. CHARLES C. WHITEHEAD (one of the solicitors to the bill) explained at considerable length. It was entitled the South Devon Extension and Branches Bill, and its object was to empower the construction of an extension of their line from Plymouth to Tavistock; of a branch from Alla to Kingswear, which is opposite Dartmouth; a branch to Saltash, a branch to New Passage, a branch to Sutton Pool, and another to Millbay, &c. The capital required for these objects was estimated at 635,000*l.*—Mr. THOMAS WERE FOX and Mr. DAVY DERRY severally addressed the meeting at considerable length, contending that the wisest course would be to complete the trunk line, and have it working before any branch lines were attempted.—A resolution approving of the bill being persevered in, submitted by the chairman, was eventually adopted without a division.—This concluded the business of the meeting, and the chairman having vacated the chair, *pro forma*, proceeded to say, that another general special meeting was called, in compliance with the requirements of the House of Lords, under what are known as the Wharfedale orders. The business of the second meeting was accordingly proceeded with. It consisted in the adoption of resolutions approving of the South Devon Extension Bill, referred to above, of the Ashburton and Newton Branch to the South Devon Railway, and of the Cornwall Railway Bill. The nature and objects of the several bills having been explained by Mr. WHITEHEAD, the resolutions were unanimously adopted.—The receipts on the South Devon Railway, during the six days from its opening to Saturday last, amount to 800*l.*, that being quite double the sum anticipated by the directors. The portion opened, from Exeter to Teignmouth, is 15 miles.

A BAD LEG, OF THIRTY-FIVE YEARS STANDING, CURED BY HOLLOWAY'S OINTMENT AND PILLS.—The particulars of this extraordinary cure are as follows:—Mr. James Macdonald, a native of Ireland, now residing at No. 7, George-yard, Whitechapel, was discharged from the navy in 1812, in consequence of his leg then having been bad for two years, and pronounced in Plymouth Hospital as incurable; during the former long period he had had the advice of the most skillful surgeons in London, Dublin, and other places. Notwithstanding the dreadful state of the leg, and 35 years of suffering, the limb is now soundly healed by the use of Holloway's ointment and pills, which are sold by all dealers in medicine, and at the proprietor's establishment, 244, Strand, London.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

Society.	Address.	Day.	Hour.
Royal Botanical	Regent's-park	Saturday	4 P.M.
Statistical	12, St. James's-square	Monday	9 P.M.
Linnæan	Soho-square	Tuesday	1 P.M.
Civil Engineers	23, Great George-street	Tuesday	8 P.M.
Society of Arts	Adelphi	Wednesday	8 P.M.
Geological	Somerset-house	Wednesday	8 P.M.
Royal	Somerset-house	Thursday	8 P.M.
Antiquaries	Somerset-house	Thursday	8 P.M.
Asiatic	14, Grafton-street	Saturday	2 P.M.

GEOLOGICAL SOCIETY.

MAY 20.—Sir PHILIP EGERTON, Bart., V.P., in the chair.

The Rev. J. G. Cunnning, M.A. and C. H. L. Woodd, Esq., were elected Fellows of the society.—The following communications were read:—1. "On a New Species of *Plesiosaurus* (*P. magnificus*) from the Bristol Lias," by S. Stutchbury, Esq. The specimen described by the author is in the Bristol Museum. It is in very beautiful preservation, and exhibits some peculiar characters both in its general structure and proportions. Its length is about 16 ft. 3 in., the neck being short in proportion, and only one and a half times the length of the head; while the whole animal appears to have been remarkably compact and massive, and the extremities unusually gigantic. The teeth are large, and as many as 60 can be counted. The number of vertebrae is 24, comprising 29 cervical, 34 dorsal (and lumbar?), 31 sacral and caudal.—2. "On Footmarks in the Coal Measures of Pennsylvania," by C. Lyell, Esq. In the Pennsylvanian coal-field there have been described several footmarks referred to mammalia and birds as well as reptiles. Among these, the author expresses his conviction that the ornithoidichmites, and the supposed mammalian footprints, are not real impressions made by the animals, but artificial sculptures by the Indians. He believes, however, that in the distinctly carboniferous rocks of Pennsylvania, there do exist chirotheroid impressions, and also footprints of birds.—3. "Description of an Upper Molar Tooth of *Dichobone cervinum*, from the Eocene Marl of Binstead, Isle of Wight," by Prof. Owen. The upper molars of teeth of this *Anoplothere* have not before been described, and they present some points of interest in the possession of a basal ridge along the inner side of the crown.—4. "On the Fresh-water Beds of Brora, Sutherlandshire, with remarks on other Fresh-water Beds in the Oolitic Series," by A. Robertson, Esq. The author, after referring to his former paper on the subject of these beds, and to the observations on them by Sir R. I. Murchinson, in the *Geological Transactions*, proceeded to discuss the general question of fresh-water oolitic deposits; all of which he denominated *wealden*, without reference to their geological position. He considers that these have been going on during the deposition of the marine beds; and that they result from a tract of land then undergoing great and sudden changes of elevation.

Any improvement or advancement in the fine arts, at all times, has claims to attention; but where such applies more particularly to the delicacy, yet firmness, of the pencil, and the transparency or opaqueness of colours used in depicting machinery, such has a twofold claim on attention. It is well known that, in the manufacture of water colours, gum has formed a component part, not only attaching brilliancy to the tone of colour, but necessary firmness, or compactness, given to the cake. It, however, has been found, after much study and attention to the admixture of colours, and their manufacture, that gum might be superseded by the employment of wax—at the same time rendering the colours readily soluble with water, while the tone given nearly approaches an oil painting. One of the main features in this improvement may be said to consist in the power acquired of washing over the colour once laid down without the danger to be apprehended from moving or destroying the transparency or brilliancy—a point which those acquainted with the mechanical drawings can well estimate. The testimonials submitted to us, of the importance to be attached to the introduction of wax instead of gum, and now before us, embrace the principal historical and landscape painters of the day, whether in oil or water colours. Messrs. Reeves and Sons have also lately introduced a superior black-lead pencil, manufactured from the dust of pure Cumberland lead—a step taken by them in consequence of the lead mine in Cumberland, from which the supply has heretofore been acquired, having failed to produce the quality, if not the quantity of lead, which has been extracted from it in past days. The importance to be attached to the freedom of handling by the pencil, which depends mainly on the purity of the lead, while they are free from grit, and possess the several varieties of hardness and tint that may be required, forms one of the most prominent claims on attention. Having availed ourselves of the use both of the pencils and colours, we have no hesitation in adding our humble testimony to that rendered by the principal artists of the day.

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PROGRESS OF FRENCH MINING INDUSTRY.

(FROM OUR PARIS CORRESPONDENT.)

Intelligence has been lately received from the mining corps in Algiers, but it does not present many points of novelty or interest. Taken altogether, however, it appears to be not of the most satisfactory character. The researches that have been made, show that the ground, generally speaking, is of a very unfavourable nature for mining operations—that it is very difficult of access, from there being few or no roads—and that the ores which are to be met with are thinly scattered over extensive surfaces. Grey copper is to be met with in many places, but in small quantities. In the groups near to Isly, it is said to be of particularly good quality, better even than that of Saxony or Hungary. Near Tenez copper and iron have been discovered, of the same quality as those of Monzaia. On the territory, near the Beni-Hidja, copper has also been found. The mountainous parts of the Ouarsenis have not been explored, neither have the mountains of Great Kalyie, but both are believed to be very rich in copper and iron ore; though, as long as Algiers shall remain so unsettled as at present, the riches cannot be turned to account. The best districts of all—as I have had occasion to mention more than once—in this French colony of Algiers, are those of Bone and Philippeville. Not only is iron ore abundant there, but the roads to them are good, and they are near the sea. By a lucky chance, the forests, known as l'Eldough and la Calle, are at no great distance from Bone and Philippeville. According to the calculation of a Government engineer, they are capable of yielding 9000 tons of wood per annum; and, if that supply were to fail or fall short, fuel could be obtained at no very enormous cost from Corsica or from Marseilles; at present, a furnace is in course of construction for working the ore, and it will probably be in operation in the course of the present year. Among the iron ores which Algiers possesses, are some which are said to be of the same quality as the finest sorts of Sweden, which are used in the steel manufactures; but, after all, there are immense drawbacks to the chances of Algiers becoming a source of mineral wealth, as has been sanguinely expected. First of all, with the exception of the neighbourhood of Bone and Philippeville, there is no fuel. Then the price of labour is enormously high—a good miner getting 6 fr. a day, and an ordinary labourer 4 fr.; nor is there any probability, nor even possibility, of a reduction being made. Next, there are scarcely any roads; even Bone and Philippeville are so wretchedly supplied, that communication with the town of Algiers is a matter of great difficulty. Then, again, there are no ports, except on paper; and, unfortunately, ports on paper afford no shelter for vessels, which, consequently, can only touch at the city of Algiers itself. Then the prices of articles necessary in mining operations are enormously high—nearly double what they are in France. Finally, the cost of conveying iron when manufactured to the centre of France, would be extraordinarily great. Thus, all seems to unite in proving, that the French will be bitterly disappointed in their expectations of making Algiers rival the mineral districts of England, and even of Siberia. So far, certainly, the prospects are the reverse of brilliant, or even promising; and, besides, what has been done is not very encouraging—for, notwithstanding several years caution, and the expenditure of large sums, only a miserably small portion of iron has been manufactured in the country—hardly enough to make a tea kettle. Some of the most sanguine of the sanguine think, that the difficulty of the want of fuel may be got over by bringing all the ore to France; but they forget the want of roads renders it absolutely impossible to do so—and, besides, if there were roads, or even railways, the cost of labour and of conveyance would be so enormous as to render the ore as costly as gold dust; upon the whole, then, the conclusion is inevitable. Algiers is not destined to supply the mineral deficiencies of France. Perhaps something might be done with it, if it were in the hands of Englishmen; but I am convinced that the French will never be able to make anything of it.

It was expected that the proposition made by a member of the Chamber of Deputies—to the effect, that for the future, no amalgamation of mining companies, such as lately effected by the coal companies of the Loire, should be legal—would have come on for discussion before this; but it now appears very probable, that it will be left over till next session. Notwithstanding the dissatisfaction which the union of the Loire companies has occasioned among the public, there is not much chance that the proposition in question would be adopted by the Chamber of Deputies; for the existing laws, providing that every mine conceded shall be worked, amounts to an effectual protection to the public against all abuse.

The Chamber of Peers yesterday passed the law for the formation of a railway from St. Dizier to Gray. There was some little opposition, but the majority of the Chamber saw clearly, that it was of vast, and even of national, importance, that the Haute Marne iron-works—the most extensive of all France—should be enabled to obtain coal on cheaper terms than at present—a thing only to be accomplished by the railway.

Some contracts, for the supply of large quantities of steel, coal, and coke, are advertised to be taken by the French Government in the course of July and Aug. Among them is one for 50,000 hec. of coal, to be delivered at Nevers. The Minister of Public Works has been unable to get a contract accepted, on his terms, for the supply of a great quantity of *cousinets*, for the Dijon and Chabres Railway.

Great activity prevails in mining affairs throughout the country, and there is great trafficking on the Bourse, in shares of coal, iron, and mine companies.

FRENCH IRON AND COAL CONTRACTS.—The Minister of Marine and Colonies has issued notice, that a contract will be entered into on the 1st of August next, for the delivery of 50,000 hectolitres of coal, for forges at Nivers—particulars of the contract to be had at the provisional offices at Cherbourg, Rochfort, Toulon, and Guerigny, and at the Ministry of Marine. On the 25th instant, contracts will be entered into for 600,000 kilogrammes of rock coal (1,200,000 lbs.), at the port of St. Servan—the conditions to be obtained at Cherbourg, Brest, Lorient, Rochfort, St. Servan, and at the Admiralty. We stated, in a former Number, the difficulty the Minister of Public Works experiences in concluding his proposed contract for railway chairs (*cousinets*), the price offered being such that the competitors cannot accept. The first tenders were opened at the Department of the Public Works; none of which, however, were accepted. Another competition took place on the 2d inst.; and after the tenders had been opened in the presence of the different parties, or their agents, the price yet offered was such, that not one could accept it, although all were desirous, if they could at a trifling profit. The Minister appeared rather *chagrined* at these two refusals, and all further proposals have been adjourned *sine die*. The manufacturers of rails, chairs, and other material, for railways, have the greatest difficulty in obtaining a sufficient quantity of iron, so as to complete their contracts—as this metal, since the building of iron steamers, and the great progress making in railways, causing so extensive a demand, has risen in the market, and the iron and forgemasters have entered into a combination "to make hay while the sun shines." It is this high price of material which causes the delay in the completion of so many of the railways now in progress and projected throughout France. The Minister of Public Works, as a matter of course, wishes to conclude his contracts at as low a price as possible, and, no doubt, will ultimately be obliged to import from this country or Belgium.

PROGRESS OF IRON SHIPBUILDING.—On Wednesday last, two launches took place from Messrs. Ditchburn's yard, at Blackwall, which attracted numerous visitors. The first vessel liberated was the *Erin-go-bragh*, belonging to the Peninsular and Oriental Steam Navigation Company, and is every way creditable to that company's splendid fleet—she is built of iron, and is to have 200-horse power engines, by Maudslay; her dimensions are 201 ft. 6 in. between the perpendiculars; keel for tonnage, 184 ft.; breadth for do., 28 ft. 9 in.; depth in hold, 17 ft. 4 in.; and burthen, 810 tons.—The *Recruit* was then launched; she is one of the experimental brigs which the Lords of the Admiralty have ordered to be built, by private firms, and is the first iron vessel of war ever built in this country, or probably in the world. The lady of Mr. Ditchburn named her—she carries 12 guns; is 113 ft. between perpendiculars; keel for tonnage, 94 ft. 10 in.; breadth do., 30 ft. 3 in.; depth in hold, 14 ft. 2 in.; and burthen, 449 tons.—On Saturday last, an experimental trip was made with the new iron steamship *Windsor*; she started from St. George's Pier, Liverpool, and made the North light-ship (154 miles) in 54 minutes; and on her return, she left the Bell buoy, and arrived at the pier (18 miles) in 1 hour and 9 minutes, against the tide—she is intended to ply between Liverpool and Belfast; her length over all, is 224 ft.; keel, 190 ft.; breadth, 28 ft.; depth of hold, 16 ft.; tonnage, 764 tons; engines, 350-horse power.

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FOR WORKING THE MINERAL ASPHALTE ROCK OF PYRMONT SEYSSSEL, A Bituminous Rock, situated on the Eastern side of the Jura.

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The ASPHALTE OF SEYSSSEL has been EXTENSIVELY USED, since March, 1838, for the following useful purposes:—

FOOT PAVEMENTS (public and other) MALT-HOUSE FLOORS

KITCHEN FLOORS PIGGERIES, &c.

COVERING OF RAILROAD AND OTHER ARCHES

GARDEN WALKS AND TERRACES The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the LINING OF TANKS, FISH PONDS, DOG KENNELS, BARN FLOORS, DRAINS, &c. &c.

TUN BARN FLOORS

Note.—The Seyssel Asphalt Company are prepared to enter into special contracts for the execution of railway work, and other public works of magnitude.

L. FARRELL, Secretary, Seyssel Asphalt Company, Stangate, London.

HALLETTE'S ATMOSPHERIC RAILWAY AND CANAL PROPULSION COMPANY.

THE EXPERIMENTAL LINE OF RAILWAY, at the ROSEMARY BRANCH, PECKHAM, FOR EXHIBITING THE APPLICATION OF HALLETTE'S ATMOSPHERIC SYSTEM, IS NOW OPEN.—Days of running, Wednesdays, Thursdays, and Fridays, between the hours of Twelve and Four.

Tickets may be had at the office, Winchester-house, 52, Old Broad-street; and at the Smith, Rosemary Branch, Peckham.—Omnibuses from Gracechurch-street and Elephant and Castle, to Peckham, every ten minutes.

EDWARD J. COLE, Secretary.

HALLETTE'S ATMOSPHERIC RAILWAY.—We have been informed, on good authority, that the directors of HALLETTE'S ATMOSPHERIC RAILWAY COMPANY, which has been duly registered, have this week COMPLETED their AGREEMENT with Monsieur HALLETTE.

The deeds of assignment were executed at the company's offices on Wednesday, and the patents for Great Britain, Ireland, the Colonies, and Plantations, and for the several European countries of the continent, were handed over by Monsieur Hallette to the directors. The invention is now the property of an English company. Many scientific persons, who have visited the model at Peckham, are impressed with a very favourable opinion of the efficiency of the longitudinal valve, and of the simplicity of the system altogether. It is now fairly before the public, and must await the judgment of our eminent engineers.

CALEDONIAN RAILWAY.—FOURTH INSTALLMENT.—Notice is hereby given, that the directors of the Caledonian Railway Company have made a CALL FOR A FOURTH INSTALLMENT, OF FIVE POUNDS per share, PAYABLE on or before the 15th day of July next, at any of the under-mentioned banks:

LONDON.....Messrs. Masterman, Peters, Mildred, Masterman, and Co., 35, Nicholas-lane, Lombard-street.

LIVERPOOL.....Messrs. Moss and Co.

MANCHESTER.....The Commercial Bank, Bart., and Co.

EDINBURGH.....The Edinburgh and Glasgow Bank.

GLASGOW.....The Commercial Bank.

The Edinburgh and Glasgow Bank.

Interest, at the rate of 5 per cent. per annum, is charged on payments in arrears of calls. Interest, at the rate of 4 per cent. per annum, is allowed on payments made in advance of calls; such sums bearing interest being diminished by the instalments called up from time to time.

N.B.—Transfers of shares, delivered at this office after the 19th inst., cannot be registered until the above call, as well as the previous calls upon such shares, shall have been paid, as the special notices of the call must be issued on the 20th inst.

By order of the board of directors, DAVID RANKINE, Treasurer and Secretary.

122, Princes-street, Edinburgh, June 8, 1846.

EDINBURGH, LEITH, AND GRANTON RAILWAY.

The directors of this company are ready to RECEIVE TENDERS FOR LOANS, on Debenture Bonds, for sums of not less than £500, for a period of three years, at the rate of 4 per cent. payable at the terms of Martinmas and Whitsunday, by the under-mentioned bankers:—London.—Messrs. Williams, Deacon, and Co., Birchin-lane.

Liverpool.—Messrs. Leyland and Bullis.

Edinburgh.—City of Glasgow Bank.

By order of the board, ALLEN GEO. FIELD, Secretary.

8, Abercromby-place, Edinburgh, June, 1846.

NORTH DEVON RAILWAY.

Notice is hereby given, that a GENERAL MEETING of the scrip-holders in this company will be HELD at the Clarence Hotel, Exeter, on Saturday, the 20th day of June inst., at One o'clock p.m., to receive a report from the committee of management of their proceedings, and of the assets and liabilities of the company, and to determine whether this undertaking shall be continued or abandoned.

The chair will be taken at One o'clock precisely.—Exeter, June 3, 1846.

N.B.—All persons attending the meeting will be required to produce their scrip.

(Signed) W. P. RICHARDS, President.

WILLIAM JESSE, Secretary.

11, King William-street, Mansion-house, London.

ON SALE.—No. 1. A SECOND-HAND double power condensing MARINE ENGINE.

with cast-iron framing and side beams; with cylinder 31-in. diameter, 3-feet stroke; air-pump lined with brass—no boiler; 22-horse power, with 7 lbs. pressure on the square inch.

No. 2. A SECOND-HAND double power condensing MARINE ENGINE, with cast-iron framing and side beams; cylinder 31-in. diameter, 3-feet stroke; air-pump lined with brass—no boiler; 42-horse power, with 7 lbs. pressure on the square inch.

No. 3. A double power condensing MARINE ENGINE, quite NEW, but unfinished, with cast-iron framing and side beams; cylinder 48-in. diameter, 34-feet stroke; 91-horse power, with 7 lbs. pressure on the square inch—no boiler.

No. 4. A double power condensing LAND BEAM WINDING ENGINE; cylinder 22-in. diameter, 44-feet stroke; hand-gear, with button valves, parallel motion, fly-wheel, wagon boiler, with all its fittings; door, grate, dead plate, &c.; two large cast-iron bell cranks and pedestals, with strong wrought-iron connecting rods, for pumping water from two lifts of pumps, 100 yards deep; two rope wheels, suited for flat chains; apparatus to throw in and out of gear; pit-head pulleys, &c.; 23-horse power, with 7 lbs. pressure on the square inch.

No. 5. A NEW direct action ENGINE, double power, suitable for a corn mill, or winding in a coal or lead mine, with improved spring packing for piston; ditto ditto for nozzle valves; cylinder 16-in. diameter, 34-feet stroke; 28-horse power, with 30 lbs. pressure da square inch—no boiler.

No. 6. A double power LAND BEAM ENGINE; cylinder 204-in. diameter, 4-ft. stroke, slide valve, parallel motion—no boiler, and quite NEW; 30-horse power, with 30 lbs. pressure on the square inch—no boiler.

No. 7. A double power BEAM WINDING ENGINE; cylinder 154-in. diameter, 34-ft. stroke, with cast-iron frame, slide valve, hand-gear, parallel motion, fly-wheel, spur and pinion wheels for the same; 29-horse power, with 30 lbs. pressure on the square inch—no boiler.

No. 8. A NEW double power direct action ENGINE, made to drive a paper machine; cylinder 74-in. diameter, 18-in. stroke, new boiler, with fittings on ditto; grate, door, dead plate, &c.; fly-wheel, &c.; 64-horse power, with 30 lbs. pressure on the square inch.

No. 9. A SECOND-HAND PUMPING ENGINE, with a cylinder 48-in. diameter, 7-ft. stroke in the house, and the same in the pit, with air-pump condenser; hand-gear, pistons, &c.; pumping three lifts of pumps 100 yards; working barrels, 14-in. diameter—no boiler; 113-horse power, with 7 lbs. pressure on the square inch.

No. 10. A WINDING ENGINE, on a cast-iron portable frame, double power; cylinder 144-in. diameter, 34-ft. stroke; spur and pinion wheels, rope wheels, fly-wheel, with friction band on ditto; grate door, dead plate, &c., complete, and no worse than new; 26-horse power, with 30 lbs. pressure on the square inch—boiler and fittings for the same.

NEW BOILERS, of any shape, can BE MADE, at a SHORT NOTICE, to SUIT any of the ABOVE ENGINES.—For further information, apply to

LEYTON AND CO., MOSTYN FOUNDRY, NEAR HOLYWELL, FLINTSHIRE.

CRADDOCK'S UNIVERSAL CONDENSING ENGINE.

THE GREAT ADVANTAGES OF WORKING HIGH-PRESSURE STEAM EXPANSIVELY, with a VACUUM, being now universally allowed, the MEANS OF OBTAINING such ADVANTAGES, by the USE of the ABOVE INVENTION, cannot fail to interest all connected in any way with the profitable use of the steam-engine, whether for steam-vessels, locomotives, or stationary engines. By the extended use of the expansion principle, the above invention is capable of realising, under all circumstances, the economy hitherto confined to the Cornish engine, and even increasing the economy of it also—thus enabling steam-vessels to go twice the distance with the usual quantity of fuel, or the same distance with half the usual quantity; at the same time, owing to the greatly reduced weight and bulk of machinery, enabling vessels to carry a much greater amount of profitable freight.

As applied to the locomotive, it will produce 75 per cent. saving in coke, and water, with the tender, and the present expensive means of obtaining a good supply of water for the use of the engine, as well as preventing all nuisance and loss from escape of steam.

By its application to the stationary engine, it effects a great economy of fuel, thereby rendering it profitably applicable to any locality for which engines are at present unsuited, owing to their great consumption of coal and water.

The above invention secures all the advantages obtainable by the use of a vacuum in condensing the steam by means of the atmosphere, when water for the purpose is not obtainable—thus realising all the advantages of the high-pressure expansive and condensing engine, at the same time only requiring a few gallons of water per day to supply waste and leakage from the boiler—(this has been practically proved to be less than one gallon per horse-power per day).

The above-mentioned great advantages are capable of such extensive application, and are based on such thoroughly established principles, as to claim the attention of all persons in any way connected with machinery or the steam-engine.

Messrs. Craddock and Co. have THREE ENGINES CONSTRUCTED on their IMPROVED PRINCIPLES, of the several powers of 10, 16, and 25-horse power—the two first of which may be seen at work by any gentleman, on presenting his card (between the hours of Ten and Four o'clock), at their

WORKS, No. 36, BROAD-STREET, BIRMINGHAM.

Messrs. Craddock and Co. will have the above engines at WORK, and OPEN for INSPECTION, from the 20th of May to the 20th of June, previous to their making more extended arrangements.—36, Broad-street, Birmingham.

Just published, in 8vo., price 2s.

THE CHEMISTRY OF THE STEAM-ENGINE PRACTICALLY CONSIDERED:

being the substance of a COURSE OF LECTURES, delivered in the Theatre of the Philosophical Institution, Birmingham.

By THOMAS CRADDOCK.

Simpkin, Marshall, and Co., London, and all booksellers.

NOTICE TO INVENTORS.—OFFICE FOR PATENTS

OF INVENTIONS AND REGISTRATIONS OF DESIGNS, 14, LINCOLN'S INN-FIELDS, LONDON.

The printed INSTRUCTIONS (gratis), and every information upon the subject of PROTECTION FOR INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (pre-paid), to Mr. Alexander Prince, at the OFFICE, 14, LINCOLN'S INN-FIELDS.

PATENT VULCANISED INDIA RUBBER.

CHARLES MACINTOSH & CO.

Reg to inform the Public that they are the Patented and sole Manufacturers of the above Substance. The distinguishing properties of the Patent Vulcanised India Rubber are, its uniform elasticity in various temperatures; its not becoming hard on exposure to extreme cold, nor liable to injury by contact with heat. Its strength is greater than that of native caoutchouc; it is indissoluble in essential oils; it resists the effects of oil and grease in different degrees, according to the purposes for which it is manufactured.

Among the various useful applications of the Patent Vulcanised India Rubber, may be enumerated—WASHERS or RINGS for joints in steam, and water-pipes, and for valves for steam-engines; by which labour is economised, and the joints more effectually made, than by any other mode.

ELASTIC BANDS, for holding together bundles of letters, papers, &c. In ARTICLES OF DRESS—Springs for waistcoat-backs and trousers, straps for trousers, brace-bands, garters, &c.

In CALICO-PRINTING, the substitute for blanket has been found to produce a much finer impression than the woolen hitherto used, and with considerably less pressure; hence a saving in power, and wear of lapping.

COVERS for furnishing rollers (in lieu of flannel), are perfect for their purpose; and, as the India Rubber does not absorb moisture, they can be easily cleaned, and no colour need be wasted.

FLEXIBLE HOSE for fire-engines, brewers' purposes, gas, &c.

SPRINGS for railway and other vans and carriages, and for buffers and drags.

CORRUGATED FELT, for placing between the rails and the chairs of railways, on the sleepers, to take off the ultimate concussion, and to prevent in wooden continuous sleepers the embedding of the rails &c.

Cambridge-street, Chorlton-upon-Medlock, Manchester, April, 1846.

SAMPLES of the above may be seen at 46, CHEAPSIDE, and 58, CHANCERY-LANE.

PATENT IMPROVEMENTS IN CHRONOMETERS.

WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1826, 1840, 1842. Silver lever watches, jewelled in four holes, 6s. each; in gold cases, from 25s. to £10 extra. Gold horizontal watches, with gold dials, from 8s. to 12s. each.

DENT'S PATENT DIPLÉDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use is, each, but to customers gratis.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, 14, WATERLOO-PLACE, LONDON.

DIRECTORS: THE CHISHOLM, Chairman. WM. MORLEY, Esq., Deputy-Chairman.

HALF CREDIT RATES OF PREMIUM.

The attention of ASSURERS is particularly directed to the Half Credit Rates of Premium, by which means assurance may be effected, and loans for short periods secured with the least possible present outlay, and at a less premium than for short terms only, and with the option of paying up the arrears and interest—thus becoming entitled to participate in the whole of the profit of the institution.

Extract from the Half Credit Rates of Premium.

Age 20. Age 30. Age 40. Age 50. Age 60.

£10 0£1 1£1 8£2 1 0£3 2 6

Thus £1000 may be assured at the age of 30 by the annual payment of £10 10s. 10d. for the first five years.

The whole of the profits divided ANNUALLY among the members, after payment of five annual premiums.

An ample guaranteed capital, in addition to the fund continually accumulating from premiums, fully sufficient to afford complete security to the policy-holders.

Members assured to the extent of £1000 entitled (after payment of five annual premiums) to attend and vote at all general meetings, which will have the superintendence and control of the funds and affairs of the society.

Full particulars are detailed in the prospectus, which, with every requisite information, may be obtained by application to A. R. IRVINE, Managing Director.

LIST OF PRIZES FOR SESSION 1846-47.

THE SCOTCH SOCIETY OF ARTS proposes

to AWARD PRIZES, of different values (none to exceed Thirty Sovereigns), either in Gold or Silver Medals, Silver Plate, or Money, for APPROVED COMMUNICATIONS, relative to INVENTIONS, DISCOVERIES, AND IMPROVEMENTS in the MECHANICAL and CHEMICAL ARTS in general, and also to means by which the NATURAL PRODUCTIONS of the country may be made more available; and in particular to—

I.—Inventions, processes, or practices from foreign countries, not generally known or adopted in Great Britain—such as the manufacture of glass pipes, for conveying water, gas, &c.

II.—Notices of processes in the useful arts practised in this country, but not generally known.

III.—Experiments applicable to the useful arts.

IV.—Practical details of public or other undertakings of national importance, not previously published.

V.—Discovery of substitutes for hemp and flax, &c.

VI.—Inventions, discoveries, or improvements in the useful arts, including the mechanical and chemical; and in the mechanical branch of the fine arts—such as the following—viz.:

1. MECHANICAL ARTS.

I. Methods of rendering large supplies of water available, for the purpose of extinguishing fires, and the best application of manual, or other power, to the working of fire-engines—of filtering water in large quantities—of economising fuel, gas, &c.—of preparing superior fuel from peat—of preventing smoke and noxious vapours from manufactories—of warming and ventilating public edifices, private dwellings, &c.—of constructing economical and salubrious dwellings for the working classes, especially in towns—of making cheap and wholesome bread from maize, or buck-wheat, or from mixtures of these with other substances.

2. INVENTIONS OR IMPROVEMENTS in the manufacture of iron and other metals, simple or alloyed—in the manufacture of writing and printing paper—in tuyeres for blast-furnaces—in the making and tempering of steel—in gliding brass equal in colour to the French—in artificial pavement—in balance, pendulum, or electro-magnetic time-keepers—in screw-cutting—in printing presses—in stereotyping, and in cleaning the plaster from the types—in facines and other apparatus used in stereotyping—in type-founding—in the composition of printers' rollers—in shipbuilding, with regard to ventilation, both for the crew and the timbers—in currying and tawing of leather—in preparing black polished leather equal to the French—in stationary and locomotive engines—in railway wheels and axles—in railway telegraphs and signals—in smith-work and carpentry—in tools, implements, and apparatus for the various trades—in electric, voltaic, and magnetic apparatus.

3. CHEMICAL ARTS.

Improvements in fine glass for optical purposes, free from veins, and of a dense and transparent quality, equal, or superior, to the best continental glass—also in hard infusible glass for chemical purposes—in the annealing of glass—in the manufacture of writing inks, both common and copying, so as to flow freely from metallic pens—in the dissolving of caoutchouc, and applying it to useful purposes.

4. RELATIVE TO THE FINE ARTS.

Improvements in patterns of porcelain, common clay, or metal, of domestic articles of simple and beautiful forms, without much ornament, and of one colour—in the preparation of lime and plaster for fresco-painting, and in appropriate tools for laying the plaster with precision—in Calotype, Daguerrotype, and Electrotype—in the production of artificial light, as nearly of the quality of day-light as possible—in engraving on stone—in the application of Daguerrotype and Calotype to the stone for lithographic printing—in die-sinking—in wood-cutting, and other methods of illustrating books to be printed with the letter-press—in printing from woodcuts, &c.—in ornamental metallic casting—in constructing buildings on the most correct acoustic principles.

The society also proposes to AWARD THE KEITH PRIZE, value THIRTY SOVEREIGNS, for some important invention, improvement, or discovery, in the useful arts, which shall be primarily submitted to the society; between 1st April, 1847.

GENERAL OBSERVATIONS.

The descriptions of the various inventions, &c., to be full and distinct, and to be written on foolscap paper, leaving margins at least one inch broad, on both the outer and inner sides of the writing, so as to allow of their being bound up in volumes; and, when necessary, accompanied by specimens, drawings, or models. All drawings to be on imperial drawing paper, unless a larger sheet be requisite. The drawings, letters or figures of reference, to be in bold lines, or strongly coloured, so as to be easily seen from some distance, when hung up in the hall of meeting.

The society to be at liberty to publish in their Transactions copies, or abstracts, of all papers submitted to them. All models, drawings, &c., for which prizes shall be given, to be held to be the property of the society—the value of the model being taken into account in fixing the amount of the prize.

Communications, models, &c., to be addressed to James Tod, Esq., the secretary, 21, Dublin-street, Edinburgh, postage or carriage paid; and they are expected to be lodged on or before 1st October, 1846, in order to ensure their being read and reported on during the session—the ordinary meetings of which end in April, 1847; but those which cannot be lodged earlier, will be received up to 1st March, 1847.

Copies of this list of prizes may be had from the secretary.

By order of the society, JAMES TOD, Secretary.

Edinburgh, April 13, 1846.